Gender Development and Suicidality among Transgender and Gender Non-Conforming Youth and Young Adults

BY

LAURA E. KUPER
B.A., Vassar College, 2007
M.A., University of Illinois at Chicago, 2011

THESIS
Submitted as partial fulfillment of the requirements for the degree of Doctor of Philosophy in Psychology in the Graduate College of the University of Illinois at Chicago, 2015

Defense Committee: Robin Mermelstein (chair)
Brian Mustanski, Northwestern University (advisor)
Dina Birman
Stacey Horn, Educational Psychology
Bethany Everett, Sociology
AKNOWLEDGEMENTS

I would like to thank my committee members, Robin Mermelstein, Brian Mustanski, Dina Birman, Stacey Horn, and Bethany Everett for their support and feedback throughout the process. I would also like to thank Laurel Wright for their input into the design of the study. Finally, the study would not have been possible without the time and effort donated by all study participants. I am deeply grateful for all of these contributions.
# Table of Contents

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I.</strong> INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>A. Escape from Self Theory</td>
<td>3</td>
</tr>
<tr>
<td>B. Interpersonal Theory</td>
<td>5</td>
</tr>
<tr>
<td>C. Minority Stress Theory</td>
<td>7</td>
</tr>
<tr>
<td>D. Prevalence and Correlates of Suicidality within LGB and TGNC Populations</td>
<td>12</td>
</tr>
<tr>
<td>E. Hypotheses</td>
<td>14</td>
</tr>
<tr>
<td>F. Measure Development: Gender-Related Support and Self Concept</td>
<td>16</td>
</tr>
<tr>
<td><strong>II.</strong> METHODS</td>
<td>20</td>
</tr>
<tr>
<td>A. Participants</td>
<td>20</td>
</tr>
<tr>
<td>B. Measures</td>
<td>20</td>
</tr>
<tr>
<td>C. Demographics</td>
<td>21</td>
</tr>
<tr>
<td>D. Independent Variables</td>
<td>22</td>
</tr>
<tr>
<td>E. Mediators</td>
<td>24</td>
</tr>
<tr>
<td>F. Outcome Variables</td>
<td>25</td>
</tr>
<tr>
<td>G. Additional Measures</td>
<td>26</td>
</tr>
<tr>
<td>H. Procedure</td>
<td>27</td>
</tr>
<tr>
<td>I. Data Collection</td>
<td>27</td>
</tr>
<tr>
<td>J. Data Analysis</td>
<td>29</td>
</tr>
<tr>
<td><strong>III.</strong> RESULTS</td>
<td>36</td>
</tr>
<tr>
<td>A. Demographic Overview</td>
<td>36</td>
</tr>
<tr>
<td>B. Exploratory Factor Analysis</td>
<td>43</td>
</tr>
<tr>
<td>C. Confirmatory Factor Analysis</td>
<td>46</td>
</tr>
<tr>
<td>D. Test of Hypotheses</td>
<td>48</td>
</tr>
<tr>
<td>1. Descriptives</td>
<td>48</td>
</tr>
<tr>
<td>2. Hypothesis 1</td>
<td>52</td>
</tr>
<tr>
<td>3. Hypothesis 2</td>
<td>55</td>
</tr>
<tr>
<td>4. Hypothesis 3</td>
<td>57</td>
</tr>
<tr>
<td>5. Hypothesis 4</td>
<td>60</td>
</tr>
<tr>
<td>6. Age and assigned sex as moderators</td>
<td>61</td>
</tr>
<tr>
<td><strong>IV.</strong> DISCUSSION</td>
<td>64</td>
</tr>
<tr>
<td>A. Theories of Suicidality</td>
<td>65</td>
</tr>
<tr>
<td>B. Age, Assigned Sex, and Demographic Differences</td>
<td>70</td>
</tr>
<tr>
<td>C. Implications for Prevention and Intervention</td>
<td>74</td>
</tr>
<tr>
<td>D. Strengths, Limitations, and Future Research Directions</td>
<td>80</td>
</tr>
<tr>
<td><strong>V.</strong> APPENDICES</td>
<td>82</td>
</tr>
<tr>
<td>A. Appendix A: Recruitment Materials</td>
<td>82</td>
</tr>
<tr>
<td>B. Appendix B: Eligibility Screener</td>
<td>83</td>
</tr>
<tr>
<td>C. Appendix C: Decision-Making Capacity Screener</td>
<td>84</td>
</tr>
<tr>
<td>D. Appendix D: Survey Measures</td>
<td>86</td>
</tr>
<tr>
<td><strong>VI.</strong> CITED LITERATURE</td>
<td>97</td>
</tr>
<tr>
<td><strong>VII.</strong> VITA</td>
<td>110</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Overview of measures included in present study</td>
<td>20</td>
</tr>
<tr>
<td>II. Overview of participant demographics</td>
<td>38</td>
</tr>
<tr>
<td>III. Age and assigned sex differences in primary study variables</td>
<td>40</td>
</tr>
<tr>
<td>IV. Degree of sexual attraction by gender (percentages)</td>
<td>41</td>
</tr>
<tr>
<td>V. Degree of identification with gender and sexual orientation labels (percentages)</td>
<td>42</td>
</tr>
<tr>
<td>VI. Strength of desire for gender confirmation procedures (percentages)</td>
<td>43</td>
</tr>
<tr>
<td>VII. EFA factor loadings and communalities for Gender-Related Support measure</td>
<td>44</td>
</tr>
<tr>
<td>VIII. EFA factor loadings and communalities for Gender-Related Self Concept measure</td>
<td>45</td>
</tr>
<tr>
<td>IX. Pearson correlations between gender affirmation and self-concept, self-esteem, and gender identity development</td>
<td>47</td>
</tr>
<tr>
<td>X. Descriptives of primary study variables</td>
<td>49</td>
</tr>
<tr>
<td>XI. Pearson correlations between study variables</td>
<td>51</td>
</tr>
<tr>
<td>XII. Results of hierarchical regression predicting suicidality severity within the past year</td>
<td>52</td>
</tr>
<tr>
<td>XIII. Results of hierarchical regression predicting frequency of suicidal ideation within the past year</td>
<td>54</td>
</tr>
<tr>
<td>XIV. Results of mediation analysis predicting past year suicide severity</td>
<td>58</td>
</tr>
<tr>
<td>XV. Confidence intervals for indirect effects within mediation analysis for past year suicide severity</td>
<td>59</td>
</tr>
<tr>
<td>XVI. Results of mediation analysis predicting past year suicide ideation frequency</td>
<td>59</td>
</tr>
<tr>
<td>XVII. Confidence intervals for indirect effects within mediation analysis for past year suicidal ideation frequency</td>
<td>60</td>
</tr>
<tr>
<td>XVIII. Results of second mediation analysis predicting past year suicide severity</td>
<td>61</td>
</tr>
<tr>
<td>XIX. Results of second mediation analysis predicting past year suicide ideation frequency</td>
<td>61</td>
</tr>
<tr>
<td>XX. Results of moderation analyses predicting past year suicide severity</td>
<td>62</td>
</tr>
<tr>
<td>XXI. Results of moderation analyses predicting past year suicide ideation frequency</td>
<td>63</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overview of participant eligibility and retention</td>
<td>36</td>
</tr>
<tr>
<td>2. Interaction of gender-related support and gender-related victimization in the prediction of past year suicide severity</td>
<td>57</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>CFA</td>
<td>Confirmatory Factor Analysis</td>
</tr>
<tr>
<td>EFA</td>
<td>Exploratory Factor Analysis</td>
</tr>
<tr>
<td>GAM</td>
<td>Gender Affirming Medical Care</td>
</tr>
<tr>
<td>LGB</td>
<td>Lesbian, Gay, Bisexual</td>
</tr>
<tr>
<td>LGBT</td>
<td>Lesbian, Gay, Bisexual, Transgender</td>
</tr>
<tr>
<td>MSPSS</td>
<td>Multidimensional Scale of Perceived Social Support</td>
</tr>
<tr>
<td>NTDS</td>
<td>National Transgender Discrimination Survey</td>
</tr>
<tr>
<td>SBQ-R</td>
<td>Suicidal Behaviors Questionnaire- Revised</td>
</tr>
<tr>
<td>TGNC</td>
<td>Transgender and Gender Non-Conforming</td>
</tr>
<tr>
<td>IVs</td>
<td>Independent Variables</td>
</tr>
</tbody>
</table>
SUMMARY

In the largest, most geographically representative sample of transgender adults to date, 41% of participants reported a history of suicide attempt (Grant et al., 2011). A handful of smaller studies have found similarly high rates of suicidality; however, a number of methodological weaknesses exist within this literature. In addition, the extent to which empirically supported theories of suicidality apply to transgender and gender nonconforming (TGNC) populations has not yet been examined. The present study collected information on the suicide-related thoughts and experiences of TGNC youth and young adults (age 14 to 30) using an affirming, interpersonally focused, and developmentally informed approach. Within the sample, four hypotheses consistent with Interpersonal, Escape from Self, and Minority Stress theories of suicidality were tested. In order to do so, measures of Gender-Related Support and Gender-Related Self-Concept relevant to the youth and young adult TGNC population were first developed and validated.

An Internet based sample of 1,965 TGNC identifying individuals participated in the present study. In comparison to the general population, participants were approximately four times more likely to have been assigned female at birth. They were also somewhat more likely to reside in New England, the Midwest, and the West, and somewhat less likely to identify as African American and Hispanic/Latino. Factor analysis identified two dimensions of Gender-Related Support, termed gender-related affirmation and gender-related expression ability, as well as two dimensions of Gender-Related Self-Concept, termed self concept positivity and self concept clarity. Test of the first hypothesis revealed that general social support from family and friends, Gender-Related Support, victimization (sexual orientation related, gender related), and Gender-Related Self-Concept were each associated with unique variance in both measures of suicidality (past year suicide severity, past year suicide ideation frequency). The influence of victimization was greater for suicide severity while the influence of Gender-Related Self-Concept was greater for past year suicide ideation frequency. In contrast to self concept
positivity, self concept clarity did not contribute unique variance to the prediction of either suicidality outcome. Consistent with the *Interpersonal* theory of suicide, a small but significant interaction was found between gender-related support and gender-related victimization in the prediction of suicide severity but not suicide ideation frequency. Consistent with the *Escape from Self* theory of suicidality, depression and self concept positivity functioned as mediators. While depression partially mediated the relationship between all predictors and both suicide outcomes, self concept positivity partially mediated the relationship between friend support, gender-related affirmation, gender-related expression ability, and suicide ideation frequency. When accounting for all interpersonal influences, desire for gender affirming medical care was also associated with higher levels of both suicidality outcomes. However, these relationships were no longer significant once access to gender affirming medical care was added into the model. Additional follow up analyses revealed that the direct effect of family support on suicidality was present across the full age range of the sample as well as across both assigned sexes. In contrast, victimization’s influence on suicidality was greater for those assigned female and younger participants.

Taken together, these findings are consistent with previous studies of adolescents and young adults that have found relationships between family support, depression, self concept, and suicidality (Bridge, et al., 2006; Dukes & Lorch, 1989; Wild, Flisher, & Lombard, 2004) as well as LGB and TGNC focused studies that have found relationships between victimization and suicidality (Clements-Nolle et al., 2006; Mustanski & Liu, 2013; Ryan et al., 2009). As such, results support the perspective that both general and minority specific interpersonal and intrapersonal stress processes influence the mental health of the TGNC population (Bockting et al., 2013; Hatzenberger, 2009; Meyer, 2003). They also help to identify prevention and intervention targets.
INTRODUCTION

For the past several decades, suicide has been consistently identified as an important public health concern along with non-fatal suicide attempts and suicidal ideation (Gvion & Apter, 2012). The Centers for Disease Control (CDC) identifies suicide as the 3rd leading cause of death for adolescents and young adults aged 15 to 24. Within the 25 to 34 year old age bracket, suicide surpasses homicide to become the 2nd leading cause of death (CDC, 2013). Within the US, roughly 1.4% of the population will die by suicide. Estimates of the lifetime prevalence of non-fatal suicide attempts range from 1.9 – 8.7%, while lifetime estimates of suicidal ideation range from 4.6-14.3% (Gvion & Apter, 2012; Nock et al., 2008). Suicidal ideation can range from passive thoughts to active planning and preparation. Presence of a plan, intent to carry out plan, and strength of conviction to die are forms of suicide ideation that have been linked to likelihood and severity of future suicide attempt(s) (Bridge, Goldstein, & Brent, 2006; Gvion & Apter, 2012). Throughout the present manuscript, the term suicidality is used to reflect this spectrum spanning from passive suicidal ideation to fatal attempt.

Several consistent demographic differences in rates of suicidality have been identified. Developmentally, individuals appear most likely to make a non-lethal suicide attempt during adolescence or young adulthood (Bridge et al., 2006; Gould, Greenberg, Velting, & Shaffer, 2002; Nock et al., 2008). In fact, some studies of adolescents and young adults have produced higher ratings of suicide ideation than the previously mentioned studies of adults. These studies of adolescents and young adults have resulted in prevalence ratings ranging from 15 to 25% (Bridge et al., 2006). This discrepancy could reflect a cohort effect (i.e., younger generations more likely to experience suicidality), recall bias (i.e., older adults less likely to report past suicide ideation), or a combination of factors (Bridge et al., 2006; Nock et al., 2008). Women are more likely to make non-fatal suicide attempts than men; however, men die from suicide at a rate of approximately four times that of women. This appears to be due, in part, to the fact that men select more lethal forms of suicide (Nock et al., 2008). Longitudinally, research suggests
that history of past suicide attempts is the largest predictor of future suicidality risk (Brent, Baugher, Bridge, Chen, & Chiappetta, 1999). Most suicidal individuals also experience one or more co-occurring mental health related difficulties such as depression and substance abuse (Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001). However, most individuals who experience depression and/or substance abuse do not commit suicide. A number of additional intrapersonal (e.g., self concept, impulsivity, pain perception) and interpersonal (e.g., social support, belongingness, violence/abuse) risk/protective factors have also been linked to suicidality (Bridge et al., 2006; Conner et al., 2001; Dukes & Lorch, 1989; Kandel et al., 1991). Several theories such as the Escape from Self and Interpersonal theories of suicide have developed to synthesize these factors into explanatory models.

Within the lesbian, gay, bisexual, and transgender (LGBT) population in particular, studies have consistently documented higher rates of suicidality in comparison to the general population (Haas et al., 2011; King et al., 2008). Although most of these studies have focused on the LGB subset of this population, the transgender and gender nonconforming (TGNC) population also appear to experience suicidality at much higher rates. A small but growing literature on TGNC health and development has demonstrated links higher rates of mental health concerns such as depression and suicidality and experiences of minority stress such as violence, victimization, and interpersonal rejection (Blosnich et al., 2013; Clements-Nolle, Marx, & Katz, 2006; Grossman & D’Augelli, 2007). For example, within the largest and most geographically representative sample of transgender adults to date (N= 6,450), 78% reported having been harassed at school, 53% reported being harassed in public, and 40% reported that family members will not longer speak to them. In this study, termed the National Transgender Discrimination Survey (NTDS), 41% of participants also reported having made a suicide attempt (Grant et al., 2011). However, most existing studies of suicidality within TGNC populations are limited by a number of methodological weaknesses including small sample sizes and measures of suicidality that lack specificity (e.g., single item dichotomous measure of lifetime suicide
In addition, although theoretical models of suicidality such as the *Escape from Self* and *Interpersonal* theories have been tested in a number of populations (e.g., college students, military veterans, clients in inpatient or outpatient mental health care settings) (Bryan & Cukrowicz, 2011; Dean & Range, 1999; Van Orden et al., 2008), their applicability to the TGNC population remains unknown.

In order to begin to address these gaps in the literature, the present study utilized the Internet to recruit a large, geographically diverse sample of TGNC youth and young adults. Within this sample, suicidality was assessed using dimensional items that asked participants to identify the severity of suicidality in the past year (i.e., thoughts, plans, attempts) as well as the frequency of thoughts of suicide during past year (i.e., suicidal ideation) (Osman et al., 2011). Several hypotheses that reflect both the *Escape from Self* theory and the *Interpersonal* theories of suicidality were empirically tested (Baumeister, 1990; Van Orden et al., 2010). In order to do so, the present study first developed and validated measures of *Gender-Related Support* and *Gender-Related Self-Concept* relevant to the youth and young adult TGNC population. These measures were developed by synthesizing Nuttbrock, Rosenblum, & Blumsenstein’s (2002) transgender *Identity Affirmation* framework with the literature on identity development, self worth/self-esteem, and global self concept (Crocetti, Rubini, & Meeus, 2008; Marsh, 1990; Phinney, 1992; Shavelson, Hubner, & Stanton, 1976). *Minority Stress* perspectives also informed measurement selection and hypothesis development. Given much of the TGNC population identifies with a sexual orientation minority status, the present study builds on key risk/protective factors identified within this literature (e.g., victimization, lack of social support). Further, it extends risk/protective factors to include TGNC specific experiences (e.g., physical dysphoria, lack of access to care).

**Escape from Self Theory**

Individuals who experience thoughts of suicide often describe or report a poor self-concept. This is one of two cognitive/emotional states central to the *Escape From Self* theory of
suicidality (Baumeister, 1990). According to this theory, negative self concepts are thought to develop via perceived negative feedback from others and rumination on past failures (e.g., failure to live up to one’s expectations or the expectations of others). Reflecting on these self-views, in turn, is thought to produce emotional distress. Ultimately, the adverseness of such emotional distress is thought to lead to an increase in efforts to avoid self-awareness. In support of this perspective, a number of research studies have identified relationships between suicidality and ratings of quality of interpersonal interactions, self-esteem, and self worth (Dukes & Lorch, 1989; Franck, De Raedt, Dereu, & Van den Abbeele, 2007; Reifman & Windle, 1995).

Within the present study, self-concept will be used to refer broadly to the ways in which individuals think about and perceive themselves, including the level of self-esteem, self worth, and interpersonal competence associated with this perception (Markus & Wurf, 1987). Of note, research indicates that most individuals possess a multidimensional self-concept (Marsh, 1990). Baumeister (1990) suggests that the domain in which an individual experiences lack of support or threat to one’s self concept is important to consider. Quality of interpersonal relationships, particularly with parents, appears to play an influential role in suicidality among adolescents and young adults (Bridge, et al., 2006; Wild, Flisher, & Lombard, 2004). For example, within a sample of adolescents and their parents, measures of ideological and emotional disparities (e.g., lack of closeness between parents and adolescents) were associated with adolescent suicidality, as mediated by measures of self-esteem and purpose in life (Dukes & Lorch, 1989).

Self-regulation failure is the second key factor central to the Escape from Self theory of suicidality. More specifically, shifts in cognitive and emotional processing that often occur during states of prolonged emotional distress are thought to produce self regulation failures that distort the gains and losses associated with suicidality. Baumeister (2005) proposes that these shifts in processing distort priorities towards immediate gains (e.g., desire to reduce distress) and away from longer-term consequences (e.g., future missed benefits of remaining alive). As such, Baumeister (1997) categorizes suicidality as a form of “self defeating behavior,” similar to
substance abuse, self-harm, and violence against others. Feelings of hopelessness and difficulty identifying reasons for living are often common in individuals with both chronic depression and suicidality (Fergusson, Horwood, & Beautrais, 1999; Lewinsohn, Rohde, & Seeley, 1994; Overholser, Adams, Lehnert, & Brinkman, 1995). These relationships have been cited as evidence for the shifts in cognitive and emotional processing identified within the *Escape from Self* theory (Dean & Range, 1999).

Together, the combination of self-regulation difficulties and poor self-concept that are thought to underlie suicidality within the *Escape from Self* theory are often present in individuals with depression. For example, individuals who report depression are more likely to report feelings of inadequacy and/or low self-esteem. Individuals with depression also appear to be more likely to make internal attributions for failures or shortcomings (Dow & Craighead, 1987; Tennen & Herzberger, 1987). As predicted by these overlaps, depression has shown to be a strong predictor of suicidality, particularly within samples of adolescents and young adults (Reifman & Windle, 1995; Wild et al., 2004; Liu & Mustanski, 2013). However, most individuals who experience depression do not experience suicidality. As a whole, this speaks to the importance of examining other factors that may be operating both through and alongside depression to increase one’s risk of suicidality.

**Interpersonal Theory**

The *Interpersonal* theory of suicidality identifies difficulty connecting with others as one of two main risk factors for suicidality. This experience of feeling socially disconnected is thought to be associated with a reduced sense of belongingness and increased feelings of being a burden to others (Van Orden et al., 2010). In support of this theory, Lamis and Malone (2011) found that college students who reported feelings of reduced belongingness and increased burdensomeness were at increased risk of suicidality. Within a second sample of individuals seeking treatment for substance abuse, suicidality was associated with perceptions of interpersonal conflicts, lack of social support, and low feelings of belonging (You, Van Orden,
& Conner, 2011). These interpersonal influences identified by the *Interpersonal* theory overlap significantly with those thought to influence self-concept within the *Escape from Self* theory. However, within the *Interpersonal* theory, these interpersonal factors also have both a direct and interactive influence on suicidality (Van Orden et al., 2010).

The second main risk factor identified by the *Interpersonal* theory of suicide is experiences violence and physical pain such as combat exposure and childhood abuse (collectively referred to as painful provocative events) (Van Orden et al., 2010). These experiences are thought to impact how individuals process fear and/or pain, ultimately leading to a reduced fear of death and increased ability to inflict self-harm. This risk factor is referred to as acquired capability for suicide. In support of this aspect of the theory, one study of college students conducted by Smith et al. (2010) found ratings of painful provocative events were associated with greater fearlessness, reduced fear of pain, and higher levels of suicidality severity. In a second college sample, Bender, Gordin, Bresin, & Joiner (2011) also found a relationship between painful provocative life events and suicide risk. In this latter study, painful provocative events also helped to explain the association between impulsivity and suicidality. A third study of military personnel found all types of combat exposure were associated with an increased risk of suicide. However, combat exposure that involved greater violence and risk of injury was associated with the highest suicide risk (Bryan & Cukrowicz, 2011). Within the *Interpersonal* theory, previous suicide attempt(s) are also conceptualized as a type of painful provocative event that is thought to impact suicidality via the same mechanisms of reduced fear and/or pain perception. This hypothesis is consistent with research identifying history of previous suicide attempts and a key risk factor for future suicidality (Haw, Bergen, Casey, & Hawton, 2007; Kotila & Lonnqvist, 1987; Liu and Mustanski, 2012; Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

As a whole, individuals conceptualized to be at highest risk within the *Interpersonal* theory of suicide are those who are experiencing difficulty connecting with others and have a
history of experiencing painful provocative events. Several recent studies have found support for this aspect of the hypothesis. Van Orden and colleagues’ (2008) identified an interaction between perceived burdensomeness and acquired capability in the prediction of suicidality severity. Participants who reported both experiences endorsed higher suicidality than those who reported only one or none of these experiences. In a second study of young adults referred to treatment for suicidality, Joiner and colleagues (2009) found a three way interaction between (low) social support from family, (high) feelings of personal insignificance, and (history of) past suicide attempts in the prediction of suicidality attempt (vs. ideation only). Together, these findings highlight both the importance of quality interpersonal relationships as well as the influence that painful past events can have on suicidality risk.

**Minority Stress Theory**

Suicidality is one of several negative mental health outcomes hypothesized to occur more often in the presence of minority stressors such as negative social stigma, interpersonal rejection, lack of social support, and victimization (Cochran, Stewart, Ginzler, & Cauce, 2002; Bockting et al., 2013). Within these models and throughout the present study, victimization is conceptualized to include verbal, physical, and sexual harassment as well as abuse/assault. Theories of *Minority Stress* attempt to illustrate the influence that these minority stressors have on mental health, often via their influence on identity, self-concept, and social connectedness (Bradford, Reisner, Honnold, & Xavier, 2012; Meyer, 2003; Nuttbrock, et al., 2002). As such, *Minority Stress* perspectives are useful in identifying potential sources of risk (e.g., victimization, rejection) and resilience (e.g., positive identity development, supportive relationships) relevant to suicidality within specific minority populations. Research on the health and development of TCNC individuals has typically progressed more slowly than research on LGB individuals due to a number of factors such as lack of systematic data collection and research funding (Boehmer, 2002; Institute of Medicine, 2011). However, a small literature of TGNC focused studies has identified unique sources of minority stress related to gender identity/expression within this
population. Further, given most TGNC individuals appear to identify as both gender and sexual minorities (Grossman & D’Augelli, 2006; Kuper, Nussbaum, & Mustanski, 2011), they are also likely to experience minority stressors associated with both an LGB and a TGNC status.

In one of the most widely cited conceptualizations of Minority Stress to date, Meyer (2003) identified distal and proximal forms of LGB-related minority stress and linked these stressors to mental health disparities previously documented within the literature (i.e., mood, anxiety, and substance use disorders). Distal stressors are identified as negative life events associated with one’s minority status such as discrimination and violence. In contrast, proximal stressors reflect internalization of the social stigma associated with one’s minority status along with expectations of future minority stress experiences. Examples of proximal stressors include internalized homophobia, identity concealment, and expectations of rejection. Characteristics of an individual’s minority identity such as valence, integration, and importance as well as the availability of social support and coping resources are also thought to impact the strength of the relationships between these stressors and mental health outcomes. Meyer (2003) primarily discusses minority stress processes as unique to minority populations. However, in an elaboration of this model, Hatzenberger (2009) proposes that these processes also overlap with the more general emotional (e.g., emotion regulation), cognitive (e.g., self concept), and interpersonal (e.g., social isolation) processes linked to negative mental health outcomes within the general population.

A number of research studies have examined important aspects of Minority Stress perspectives within subsets of the LGB population. These studies have generally confirmed that LGB individuals often experience victimization and interpersonal rejection and/or lack of social support as a result of their minority status (Balsam, Rothblum, & Beauchaine, 2005; Birkett, Espelage, & Koenig, 2009; Doty, Willoughby, Lindahl, & Malik, 2010). Intrapersonal manifestations of minority stress have also been consistently documented, including internalized homophobia (i.e., adoption of negative societal beliefs surrounding one’s sexual orientation) and
rejection sensitivity (i.e., increased fear and vigilance towards interpersonal rejection) 
(Panchankis, Goldfried, & Ramrattan, 2008; Newcomb & Mustanski, 2010). In turn, these risk 
and protective factors have been linked to the increased prevalence of a range of negative 
mental health outcomes such as substance abuse, depression, anxiety, and post traumatic stress disorder (PTSD) (Birkett et al., 2009; Cochran, et al., 2002; Gilman et al., 2001; Ryan et al., 2009; Shilo & Savaya, 2011). Within the TGNC literature, a handful of studies have attempted to demonstrate the applicability of Minority Stress perspectives to TGNC populations. Mirroring the literature on LGB Minority Stress, these studies identify links between victimization, interpersonal difficulties, and negative mental health outcomes (Benotsch, et al, 2013; Bockting et al., 2013; Nuttbrock, et al., 2010; Nuttbrock, et al., 2011; Slotzer, 2009). In addition, several studies have also found associations between these minority stress experiences and intrapersonal difficulties such as low self esteem and internalized transphobia (Bockting, 2009; Singh, Hays, & Watson, 2011).

Increasingly, TGNC populations are being included in studies of LGB populations. Within these studies, TGNC individuals are often found to be at increased risk of a range of minority stressors and associated health disparities in comparison to their LGB peers. For example, the Gay, Lesbian, & Straight Education Network (GLSEN) analyzed survey data of LGBT youth (N=6,209) and found that transgender participants were more likely than their LGB peers to experience victimization and school disruption. Transgender students were also more likely to report feeling socially isolated (Greytak, Kosciw, & Diaz, 2009). These findings are consistent with NTDS survey findings (N=6,450) of strikingly high rates of harassment (78%), physical assault (35%), and sexual assault (12%) in K-12 settings. Into adulthood, TGNC continue to appear more likely to experience the most severe forms of minority stress (e.g., sexual assault, homelessness) and less likely to have access to supportive relationships and environments (Grant et al., 2011; Nuttbrock et al., 2002; Yu, 2010). For example, within the NTDS sample, 78% reported harassment, violence, or discrimination at work, while 40% lost relationships with
family and 45% lost relationships with romantic partners due to their gender identity/expression. Taken together, these differences in prevalence rates appear to reflect the additive effect of experiencing minority stress related to both gender and sexuality. In addition, gender and sexuality minority statuses also appear to interact in ways that increase risk of negative outcomes. Most notably, gender nonconformity is now one of the most commonly identified predictors of sexual orientation victimization (D’Augelli, Grossman, & Starks, 2006; Friedman, Koeske, Silvestre, Korr, & Sites, 2006; Fitzpatrick, Euton, Jones, & Schmidt, 2005; Remafedi, Farrow, & Deisher, 1991; Toomey et al., 2010). Further, childhood gender nonconformity has also been identified as a risk factor for suicidality within several studies of LGBT youth (D’Augelli et al., 2005; Friedman et al., 2006; Liu & Mustanski, 2012).

An additional handful of TGNC focused studies have also identified minority stressors specific to this status. Despite research demonstrating the positive impact that GAM has on emotional health and quality of life (e.g., Gomez-Gil, et al. 212; Gorin-Lazard, et al., 2013; Meier, Fitzgerald, Pardo, & Babcock, 2011), TGNC individuals often face multiple barriers to accessing these medical services. In the United States, insurance companies and public aid rarely reimburse for transition related care. Given the employment discrimination and marginalization so frequently experienced by members of the TGNC population, many cannot afford to pay out of pocket (Poteat, German, & Kerrigan, 2003; Sanchez, Sanchez, & Danoff, 2007). Similar to LGB individuals, TGNC individuals are also more likely to be uninsured than the general public and report high rates of avoiding medical treatment out of fear of experiencing bias (Grant et al., 2011). Therefore, physical dysphoria and lack of access to GAM may help to explain additional variation in suicide risk within the TGNC population. In addition, the gender-related experiences of TGNC individuals are likely to be associated with unique developmental and psychosocial needs. These include information and support regarding transition, availability of TGNC role models, interpersonal identity affirmation (e.g., others use of affirmed name and pronouns),
ability to express one’s gender (e.g., via clothing and activities), and access to appropriate sex segregated facilities (e.g., locker rooms, bathrooms) (Reck, 2009; Yu, 2010).

Developmentally, the age range of participants in the present study spanned the periods of late adolescence and early through late emerging adulthood. During these developmental periods, individuals appear to be at increased risk of experiencing suicidality as well as other mental health difficulties such as depression (Bridge, Goldstein, & Brent, 2006, Nock et al., 2008). Each of these transitions also presents unique challenges and opportunities for TGNC youth and young adults who are simultaneously questioning, exploring, or making meaning of their gender and sexuality related experiences. In adolescence, youth often reflect on, explore, and redefine their identities as well as how they relate to others within home, school, and extracurricular and/or neighborhood settings (Adams, Gullotta, & Montemayor, 1992). In making the shift from adolescence to emerging adulthood, individuals often enroll in higher education coursework, start their first full time job, and/or move away from their primary caretakers for the first time. During the later stages of emerging adulthood, focus is increasingly placed on establishing stability in relationships and careers (Arnett, 2000; 2004). Navigating these milestones in the face of unsupportive settings and relationships appears to contribute to the increased rate of mental health related difficulties within the TGNC population (Bockting, Miner, Swinburne, Hamilton, & Coleman, 2013; Morgan, 2013; Toomey, Ryan, Diaz, Card, & Russell, 2010). However, recent increases in visibility and acceptance are shifting the larger social context of TGNC development, highlighting the need for studies of younger generations to update and expand the research literature.

As a whole, many of the important intrapersonal and interpersonal concepts identified within Minority Stress perspectives are consistent with Escape from Self and Interpersonal theories of suicidality. However, Minority Stress perspectives also extend these models by identifying minority stressors unique to LGB and TGNC populations.
Prevalence and Correlates of Suicidality within LGB and TGNC Populations

Consistent with Minority Stress perspectives, Haas and colleagues from the American Foundation for Suicide Prevention (2011) report that there is now “strong evidence” for higher rates of both suicidal ideation and suicide attempts in LGB individuals across much of the lifespan. Analysis of data from multiple surveys produced figures suggesting that LGB youth, in particular, are two to seven times more likely to make a suicide attempt than non LGB peers (King et al., 2008). Most of these studies were conducted in the 1990s and produced lifetime suicide attempt rates within the 30-40% range (D’Augelli et al., 2005; Garofalo, Wolf, Wissow, Woods, & Goodman, 1999; Mustanski & Liu, 2013; Remafedi et al., 1991). In contrast to the general research literature suggesting females are more likely to attempt suicide than males, King et al. (2008) suggest that GB males are more likely to attempt suicide than LB females. However, they note that relatively fewer studies have been conducted with LB females and that prevalence rates tend to be more variable. Within the literature on LGB suicidality, a number of studies have also identified unique risk and protective factors specific to the LGB population. Most of these studies have focused on late adolescence and early adulthood given the higher rates of suicidality typically reported during these periods. The largest number of these studies has identified LGB-related victimization as a specific risk factor for suicidality (Huebner et al., 2004; Mustanski & Liu, 2013; Safren and Heimberg, 1999; Savin-Williams & Ream, 2003). In addition, parental acceptance of LGB identity (Ryan et al., 2009) as well as general social support (Mustanski & Liu, 2013) have been identified as important protective factors.

In contrast to the research literature on LGB populations and suicidality, researchers from the American Foundation for Suicide Prevention (2011) note that there has been much less research conducted on suicidality within TGNC populations. Nonetheless, a handful of studies have identified suicidality as an important health disparity within the TGNC population. These studies also suggest that TGNC related minority stressors play an important role in the higher levels of suicidality found across studies. In one of the largest studies to date, Clements-
Nolle et al. (2006) surveyed 515 MTF and MTF spectrum transgender individuals living in the San Francisco region, of which 32% reported history of a suicide attempt. They found that having a history of forced sex, gender-related discrimination, victimization, and/or substance abuse related treatment were significantly associated with lifetime suicide attempt(s). In addition, participants age 25 or younger as well those who reported experiencing depression were more likely to report a past suicide attempt(s). Within a somewhat smaller sample of 290 transgender adults residing in Virginia, history of past suicide attempt(s) was reported by 28.5% of the sample. However, this rate was nearly four times as high among those who reported having experienced victimization in school (Goldblum et al., 2012). Similar rates of suicide attempts have also been documented in smaller samples of transgender adults from Chicago and Philadelphia (Kenagy & Bostwick, 2005; Kenagy, 2005). Within these studies, rates of suicide ideation were much higher, ranging from 48% to 64%. Across studies, the lowest rate of past suicide attempt(s) (18%) came from a study of 153 transgender adults recruited from a conference hosted by a regional transgender support group (Maguen, & Shipherd, 2010).

Several qualitative surveys have provided descriptive data on life experiences associated with suicidality within subsets of the TGNC population. In the only study of suicidality conducted exclusively with transgender youth, Grossman and D’Augelli (2007) interviewed 55 MTF and MTF spectrum transgender youth (age 15-21) from New York City. Many participants described specific experiences of interpersonal rejection. Youth who reported more gender nonconformity in childhood also reported experiencing more physical and verbal abuse from parents. Along with low body self-esteem, these experiences of abuse and rejection were linked to higher rates of past suicide attempt, which was reported by 45% of the sample. In a second qualitative study, a sample of TGNC adults was asked to reflect broadly on their health and development. Participants within this sample stressed the importance of both peer and family support, acceptance, and identity recognition/validation. Freedom of gender expression, access
to information, and availability of TGNC-affirming healthcare were also frequently discussed (Riley, Clemson, Sithartha, & Diamond, 2012).

While these estimates provide the best available overall snapshot of suicidality risk and assist in identifying risk/protective factors, most of these studies of suicidality are limited by small sample sizes as well as selection bias in sampling (e.g., surveying LGB or TGNC individuals seeking services at a community center; limiting recruitment to a specific geographic region such as New York City, Chicago, or San Francisco). On the other hand, the generalizability of results obtained from population-based samples have also been called into question given the percentage of participants identified as LGB within these studies (e.g., by self-report of same sex behavior) is often significantly lower than in studies documenting the prevalence of same-sex sexuality (Savin-Williams, 2001). Further, studies with younger cohorts of LGBT individuals are also needed to update this literature, particularly in light of sociocultural shifts in the larger context of LGBT development (Kuper et al., 2011; Morgan, 2013). The present study aimed to improve on these methodological weaknesses by recruiting a large geographically diverse sample of TGNC youth and young adults. By developing and testing novel measures of Gender-Related Support and Gender-Related Self Concept, the present study also expands this literature by examining the influence of these risk/protective factors.

**Hypotheses**

The following set of hypotheses were developed to test the relationships between both general and minority stress related risk and protective factors for suicide among TGNC youth and young adults. Broadly, these factors can be categorized by their focus on intrapersonal (i.e., self concept, depression, physical dysphoria) and interpersonal (i.e., victimization, support) processes.

The **first hypothesis** was that victimization (both gender and sexual orientation related), Gender-Related Support, and Gender-Related Self Concept would each predict suicidality above and beyond the influence of general social support. This hypothesis is consistent with
previous research conducted with sexual orientation minority youth. Within this literature, both general (e.g., social support) and LGB-specific factors (e.g., sexual orientation victimization) have been linked to suicidality (D’Augelli et al., 2005; Liu & Mustanski, 2013; Ryan, Huebner, Diaz, & Sanchez, 2009). This hypothesis was tested separately for both forms of suicidality: past year suicide ideation and past year suicide severity. Age and assigned sex were also entered into these analyses to test for a main effect of each on suicidality.

The second hypothesis was that the interaction between gender-related victimization and Gender-Related Support would uniquely predict suicidality above and beyond the individual contribution of each of these variables. More specifically, I predicted that the combination of lack of Gender-Related Support and history of gender-related victimization would be associated with the highest levels of past year suicidality. In contrast, I predicted that this interaction would not be significant for frequency of suicidal thoughts during the past year. This hypothesis is modeled after the Interpersonal theory of suicide (Joiner et al., 2009; Van Orden et al., 2010). According to this theory, suicidal attempts most commonly occur among individuals who have a reduced fear of death and/or increased pain tolerance (termed acquired capability), combined with a perceived a lack of support and belonging (termed thwarted belongingness, perceived burdensomeness). Within the present study, victimization was used as a measure of acquired capability while Gender-Related Support was used as a measure of support and belonging. The interaction between these variables is thought to predict past year suicidality and likelihood of future suicidality but not frequency of past thoughts because thoughts of suicide do not require the acquired capability to follow through with an act of suicide.

The third hypothesis specified that the relationships between social support, Gender-Related Support, and victimization (both gender and sexual orientation based) would be partially mediated by both depression and Gender-Related Self Concept across both measures of suicidality. Previous research suggests that much of the impact that minority stressors have on suicidality operates via the impact that these stressors have on depression (Kandel, Raveis, &
Further, self-concept is central to another widely cited theory of suicidality termed the *Escape From Self* theory. According to this theory, suicidality is conceptualized as an attempt to avoid emotionally painful self-awareness associated with a poor self-concept (e.g., belief that one is undesirable) (Baumeister, 1990). Applying this theory to the transgender population, high rates of suicidality are thought to result from the detrimental impact that lack of gender-related support and experiences of victimization have on *Gender-Related Self Concept*.

The **fourth hypothesis** proposed an alternate model focused on the impact of physical dysphoria on suicidality within the TGNC population. This hypothesis predicted that desire for gender confirmation procedures (hormones, “top” surgery, “bottom” surgery) would be associated with higher levels of suicidality (both past year severity and past year frequency of thoughts). However, I also predicted that these relationships would be partially mediated by ability to access and afford such procedures. This hypothesis is based on the growing body of literature that has demonstrated the positive impact of gender affirming medical care (GAM) on the mental health of transgender individuals (Gomez-Gil et al., 2012; Gorin-Lazard et al., 2013; Murad et al., 2010). Despite these benefits, ability to access and afford such procedures remain major barriers for many transgender individuals (Grant et al., 2011).

Given measures of *Gender-Related Support* and *Gender-Related Self-Concept* have been developed for use in the present study, a process of exploratory factor analysis followed by confirmatory factor analysis was conducted prior to testing these hypotheses. These analyses assisted in identifying subscales within these measures, which were then tested separately.

**Measure Development: Gender-Related Support and Self-Concept**

When conducting research with a minority population, tools used to collect data should be based in language, concepts, and experiences relevant to the target population (Institute of Medicine, 2011; Rogler, 1989). The present study utilized an iterative measure development
process that involved reviewing research on TGNC health and development, the literature on self-concept and similar constructs (e.g., self esteem, self worth), and qualitative data previously collected on identity development within diverse TGNC emerging adults (N=27, Kuper, Wright, & Mustanski, under review). Feedback from counselors and researchers within the field of transgender health, as well as TGNC-identifying individuals themselves, was also solicited throughout the processes. Several goals were identified during initial stages of the measurement development process. These goals guided how survey items were identified and refined. First, in constructing measures of both Gender-Related Support and Gender-Related Self-Concept, it was important that items and response options were inclusive of the overall diversity of gender identity options (e.g., genderqueer, bigender) and methods of expressing one’s gender (e.g., femme transgender men) present within the TGNC population (Bockting, Benner, & Coleman, 2009; Diamond & Butterworth, 2008; Kuper, et al., 2011). Secondly, consistent with the larger shift in transgender health and development research, it was important that the measures were non-pathologizing of diverse gender identities and expressions (Bockting, 2009).

Nuttbrock and colleagues’ (2002) conceptualization of transgender Identity Affirmation was particularly influential given its focus on intrapersonal and interpersonal processes related to mental health disparities within TGNC populations. Identity Affirmation references the social process of being able to identify and express one’s gender identity within the context of supportive relationships and settings. Nuttbrock et al. (2002) operationalization of Identity Affirmation includes four components: (1) awareness and disclosure of identity (identity awareness), (2) ability to express one’s gender identity via clothing and adopt the desired gendered social role (identity performance), (3) identity is seen and responded to appropriately by others (identity congruence), and (4) acceptance and supportiveness of others (identity support). Together, Nuttbrock et al. (2002) conceptualizes these experiences of acceptance, support, and gender expression ability as central to the mental health and life satisfaction of
transgender individuals. In support of this focus, research on resilience within the TGNC population has highlighted the importance of self-definition, identity affirmation, and interpersonal connection (Bockting et al., 2013; Singh et al., 2011).

Using data collected from 571 male-to-female (MTF) spectrum transgender adults residing in New York City, Nuttbrock and colleagues have found empirical support for key components of the Identity Affirmation model. As part of this study, Nuttbrock and colleagues (2009) asked participants to reflect on the presence of gender affirmation (defined as being treated consistent with one’s affirmed gender) and gender conflict (defined as negative reactions to one’s affirmed gender) during past stages of the life course (a 2 item measure). Controlling for disclosure within relationships, gender affirmation was associated with reduced risk of major depression while gender conflict was associated with an increased risk within most of the life stages assessed. Across participants, friends and romantic/sexual partners were consistently more likely than family to respond in an affirming way. However, receiving gender affirmation, which has also been referred to as desired gender role casting, was more common among younger participants (age 19-39 versus 40-59). Younger participants were also more likely to have disclosed their gender identities to others. However, both the younger and older participants recalled desired gender role casting to be lowest in adolescence (Nuttbrock et al., 2012). Within a second smaller qualitative study of MTF spectrum transgender adults residing in San Francisco, Sevelius (2012) identified additional sources of gender affirmation, including self-affirmation and ability to access GAM. Within this study, Sevelius (2012) also demonstrated a link between lack of gender affirmation and risky sexual activity and body modification practices (e.g., silicone injections, illicit hormone use).

The present study aimed to expand these previous methods of assessing Identity Affirmation by constructing a global measure of Gender-Related Support. Gender-Related Support was operationalized broadly to reflect the experience of interpersonal acceptance surrounding one’s gender as well as the availability of resources to effectively develop a positive
and coherent gender-related sense of self. Resources were conceptualized as information, support, and role models, including the ability to express one’s gender within interpersonal relationships (e.g., name and pronoun use) and in public (e.g., ability to access appropriate sex segregated facilities; ability to wear clothing and style oneself as desired). Additionally, Gender-Related Self-Concept was developed to measure participants’ own beliefs, emotions, and sense of self in relation to their gender. More specifically, self-concept was conceptualized broadly to include the emotional valence (e.g., gender seen as positive aspect of self, feelings of embarrassment related to gender), clarity (e.g., having a good idea of what one’s gender will be like when older), integration (e.g., gender fits well with rest of self), and satisfaction (e.g., wish to change gender) experienced in relation to one’s gender identity/expression. This conceptualization reflects important aspects of the self identified within the literature on identity development, self worth, self-esteem, and global self-concept modified to apply to gender identity/expression (Crocetti, Rubini, & Meeus, 2008; Marsh, 1990; Phinney, 1992; Shavelson, Hubner, & Stanton, 1976).

As a whole, research has identified the TGNC population as a particularly vulnerable subgroup of the LGBT population due to the increased rejection, violence, and victimization that they face. However, given variations in Gender-Related Support and Gender-Related Self-Concept experience have not been well quantified, the contributions that they make to health status remain largely unknown. Hypotheses developed and tested within the present study reflect an integration of these novel measures into three overlapping yet distinct perspectives on suicidality: Escape from Self, Interpersonal, and Minority Stress. By testing these hypotheses in a large sample of TGNC youth and young adults, the present study contributes to the literature base on both suicidality and TGNC health and development. At the policy and systems level, such research is needed to inform the improvement of medical and mental healthcare for the TGNC population.
METHODS

Participants

The online survey was advertised as a study of transgender and gender nonconforming health and development (See Appendix A for the recruitment flier). Participants were recruited into the online survey primarily via postings on social media (Facebook, Tumblr). Additionally, paid Facebook advertisements as well as postings on LGBT specific websites (e.g., impactprogram.org), craigslist.org, and electronic mailing lists were used. Participants were also encouraged to share the survey with potentially eligible friends. All participants were between the ages of 14 to 30 years old and self-identified as transgender, gender nonconforming, or as a gender identity other than their sex assigned at birth. Participation was also limited to individuals currently living in the United States (See Appendix B for eligibility screener).

Measures

Table I provides a list of measures included in the present study. All survey items can be found in Appendix D.

Table 1. Measures included in the present study listed in order of administration

<table>
<thead>
<tr>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demographics</td>
</tr>
<tr>
<td>a. Age</td>
</tr>
<tr>
<td>b. Assigned sex</td>
</tr>
<tr>
<td>c. Racial/ethnic background</td>
</tr>
<tr>
<td>d. Socioeconomic status</td>
</tr>
<tr>
<td>e. Student/education status</td>
</tr>
<tr>
<td>f. Pubertal timing</td>
</tr>
<tr>
<td>g. Sexual orientation</td>
</tr>
<tr>
<td>h. Gender identity</td>
</tr>
<tr>
<td>2. Gender and Sexual Orientation-Related Victimization</td>
</tr>
<tr>
<td>3. Gender-Related Support</td>
</tr>
<tr>
<td>4. Gender-Related Self Concept</td>
</tr>
<tr>
<td>5. Suicidality (SBQ-R)</td>
</tr>
<tr>
<td>6. Life Satisfaction</td>
</tr>
<tr>
<td>7. Depression (PHQ-2)</td>
</tr>
<tr>
<td>8. Self Esteem</td>
</tr>
<tr>
<td>9. Perceived Social Support (MSPSS)</td>
</tr>
<tr>
<td>10. Gender-Related Identity, Embodiment, Expression</td>
</tr>
</tbody>
</table>

**Bold:** Included in primary analysis

**Italics:** Developed for present study
Demographics. The demographic questionnaire was adapted from several sources. Questions assessing sex assigned at birth, zip code, race/ethnicity, and gender identity are consistent with the NTDS (Grant et al., 2011). This measure of gender identity allowed participants to select how strongly they identify with each gender identity listed, from not at all to strongly (4 point scale). Participants were also asked to use this same scale to indicate how much they identify with a range of sexual orientation identities. Previously, NTDS measured sexual orientation categorically, but recommended a dimensional assessment for future studies. Gender and sexual orientation identities reflected a range of options, but also allowed participants to write in identities not listed. An item assessing highest educational attainment was also adapted from NTDS. Several response options were collapsed (e.g., Master’s, Professional, or Doctorate degree) in order to reduce the response burden. In addition, an item asking participants to categorize the socioeconomic class best associated with the home they grew up in was included. This item has been included in a previous study of LGBT youth (Mustanski & Liu, 2013), but has been adapted to include more response options (i.e., lower middle class, upper middle class). A modified version of an item used by Wichstrom (2000) to measure perceived pubertal timing in a longitudinal study of adolescent suicide attempts was also included. Adaptions involved collapsing “somewhat” and “slightly” later/earlier response options into one “somewhat” option and adding a response option to allow participants to indicate that they had not yet gone through puberty. Finally, an item assessing whether participants have an intersex condition or difference of sex development was included along with items assessing the sex of individuals that participants are attracted to and have engaged in sexual activity with. These latter two items included the response options of cisgender males and females, transgender males and females, and a not listed option for participants to indicate additional sex/gender options.

Throughout the analyses, the terms “assigned sex” and “sex assigned at birth” will be used to refer to the sex that participants indicated was assigned to them at birth (e.g., recorded
on their initial birth certificates). However, several caveats are important to consider and to keep in mind when interpreting the results. Although the cultural practice of assigning a “male” or “female” sex at birth suggests that sex is a binary characteristic (e.g., an either/or designation), the existence of a number of intersex conditions highlights the fact that sex exists on a continuum (Cohen-Kettenis & Pfäfflin, 2003; Creighton, Garrett, & Minto, 2001). Further, preliminary studies have suggested that there may be morphological and/or physiological differences associated with the experience of being transgender that challenge the assumption that gender identity is a purely psychological phenomenon separate from sex characteristics (Savic, Garcia-Falgueras, & Swaab, 2010; Veale, Clarke, & Lomax, 2010). Relatedly, many transgender individuals may not regard their sex assigned at birth as a meaningful or accurate characteristic. Therefore, it is important to note that while “sex assigned at birth” and “assigned sex” will be used strategically throughout the present manuscript to examine group level demographic differences, it should not be used interchangeably with gender identity. In general, using participants’ own affirming language (e.g., their stated gender identity) is the preferred method of referring to the gender of individuals within TCNC populations (e.g., as “affirmed females” rather than “assigned males”).

**Independent variables.**

**Social support.** General social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988). This measure provided a total support score along with an individual score of support from family, peers, and significant others. Within the measure, participants were asked to indicate how much they disagree or agree with each of the 15 statements (e.g., “My family really tries to help me,” “I can count on my friends when things go wrong”). Response options were on a seven point scale ranging from strongly disagree to strongly agree. This measure has been used in previous studies of LGBT youth and young adults (Mustanski & Lui, 2013; D’Augelli, Grossman, & Starks, 2005). Both the family (α=.93) and friends (α=.93) subscales were used in the present study.
**Gender-related support.** As previously discussed, this measure was developed to assess experiences of support and affirmation regarding gender identity/expression as well as the availability of resources need to effectively engage in positive gender identity development (e.g., information, role models, access to desired clothing/accessories). Participants were asked to indicate how true each of the 14 statements has been during the past year using a four point scale (not at all true, somewhat true, moderately true, very true). An additional item asked participants to indicate the people or places where they attempted to find information and support related to their gender identity/expression such as parents, friends/peers, therapists, online communities, offline community centers, and TV/media. Follow up question(s) then asked participants to indicate how helpful the information and/or support was from each of these sources on a five point scale ranging from very unhelpful to very helpful.

**LGBT related victimization.** Both gender-related and sexual orientation-related victimization were assessed using a modified version of the victimization measure developed by GLSEN (Greytak et al., 2009). This measure assessed six forms of victimization: verbal harassment, physical harassment, physical assault, sexual harassment, sexual assault, and Internet or phone based harassment. Participants were asked to indicate how often each of these victimization experiences have occurred “because of your” sexual orientation and gender identity/expression (separate items) on a four point scale (never, rarely, sometimes, often). Separate subscales reflecting gender-related victimization (α=.78) and sexual orientation-related victimization (α=.80) were used in the present study.

**Gender-related identity, embodiment, and expression.** This measure was developed from previous qualitative and quantitative research I conducted with transgender youth and adults (Kuper et al., 2011; Kuper et al., under review). The quantitative component of this measure asked participants to indicate their pronoun (i.e. she/her, he/him, they/theirs, no preference) and name (i.e., male-typical, female-typical, gender neutral, no preference) preferences with the option of writing in a response not listed. Items assessing participants’
desire for gender confirmation procedures, including hormones, “top” surgery, and “bottom” surgery, were adapted from a previous quantitative measure I developed (Kuper et al., 2011). These items were measured on a five point scale ranging from no desire to extreme desire. Participants were also asked to indicate the extent to which cost or lack of access prevents them from obtaining or undergoing these procedures. This set of items reflecting gender-related embodiment were used to examine the role of physical dysphoria in suicidality (Hypothesis 4). Additional items assessing participants use of puberty blockers (e.g., medication to stop or delay puberty) and desire to have been able to take puberty blockers were also included for exploratory purposes. Finally, four qualitative, open ended items were included to assess the four main dimensions of gender-related experience identified within a previous qualitative study of gender identity development among 27 transgender and gender nonconforming emerging adults (Kuper et al., under review). These include: Gender Identity (e.g., internal sense of one’s gender), Gender Presentation (e.g., clothing, style, accessories), Gender Expression (e.g., how female-typical or male-typical one’s interests, activities, personality, mannerisms are), and Physical Self Image (e.g., including chest, genitals, and overall body size and shape). A fifth open ended item was also included asking participants to indicate how they would like others to think about their gender. These qualitative items were also included for exploratory purposes.

Mediators.

Gender-related self-concept. As previously discussed, this measure was developed to assess participants sense of self relating to gender identity/expression, including common thoughts and emotions associated with this sense of self. Participants were asked to indicate how true each of the 14 statements has been during the past year using a four point scale (not at all true, somewhat true, moderately true, very true).

Depression. The PHQ-2 was used to assess symptoms of depression. This measure has been used as a brief screen of symptoms of a Major Depressive Episode within both research and primary care settings (Kroenke, Spitzer, & Williams, 2001). The items reflect the
actual Diagnostic and Statistical Manual of Mental Disorders symptoms (e.g., little interest or pleasure, poor appetite or overeating, trouble concentrating) (American Psychiatric Association, 2013), and have been found to have a similar sensitivity and specificity as other brief screening measures for depression. Summing all ten items resulted in a total symptom score ($\alpha = .90$), which was also converted into the following levels of depression severity: minimal (0 to 4) mild (5 to 9), moderate (10-14), moderately severe (15-19), and severe (20-27). An additional item asked participants to indicate how difficult these symptoms have made it to “do your work, take care of things at home, or get along with other people.” The five response options for this item range from not at all to extremely difficult.

**Outcome variables.**

**Suicidality.** The Suicidal Behaviors Questionnaire- Revised (SBQ-R) was used to measure suicidality (Osman, et al., 2001). The SBQ-R assesses the severity of lifetime with response options ranging from none, “just a brief passing thought,” “had a plan,” “had a plan” and “really wanted to die”, “made an attempt” but “did not want to die,” to “made and attempt and really hoped to die.” For the present study, an additional item was added to assess past year suicidality severity using these same response options. Frequency of thoughts of suicide during the past year were also assessed with six response options ranging from none to “very often (more than 10 times)” while future likelihood of suicidality is assessed on a six point scale ranging from “no chance at all” to “very likely.” An additional item asks whether participants told others about the suicidal thoughts, including the seriousness of thoughts of suicide during this time (e.g., told someone but did not want to die). Within the present study, a second item was added to the SBQ-R assessing the age that participants first thought about or attempted suicide. Previous studies, including several empirical tests of the Interpersonal theory of suicide, have used this measure as a dimensional rating of suicide severity (e.g., Bryan & Cukrowicz, 2011; Chang, Sanna, Hirsch, & Jeglic, 2010; Maria, Gooding, Taylor, & Tarrier, 2012). Given the lack of more nuanced study of suicidality within the TGNC population (i.e., beyond categorical history
of suicide attempt), the present study independently examined two dimensional measures of suicide: past year severity and past year frequency of thoughts.

Additional measures.

**Self-esteem.** The Single-Item Self Esteem Scale was used to assess self-esteem (i.e., “I have high self-esteem”). Participants were asked to indicate how much they agree or disagree with the statement with options are on a seven point scale ranging from strongly disagree to strongly agree. Robins, Hendin, and Trzesniewski (2001) demonstrated that this single item measure has high convergent validity with the Rosenberg Self-Esteem scale, which the most widely used measure of self-esteem to date. This item was included in order to assist in validating the measure of *Gender-Related Self-Concept*. More specifically, I expected self-esteem to be positively correlated, but not redundant, with *Gender-Related Self-Concept*.

**Gender-related identity development.** Two additional items assessing identity development were added to the measure of *Gender-Related Self Concept* using the same four point scale (not at all true to very true). These reflected processes of contemplation (i.e., “I have thought a lot about my gender identity/expression”) and exploration/experimentation (i.e., “I have actively explored or experimented with my gender identity/expression”). Along with commitment and evaluation of commitment, these processes have been identified as central to identity development in adolescence and early adulthood (Crocetti, Rubini, & Meeus, 2008; Luyckx, Schwartz, Goossens, Beyers, & Missotten, 2011). Commitment (e.g., “I have a good idea of what my gender identity/expression will be like when I am older”) and evaluation of commitment (e.g., “I feel unsure, confused, or conflicted about my gender identity/expression”) were already included within the operationalization of *Gender-Related Self Concept*. These additional items assessing contemplation and experimentation were added to assist in validating measures of *Gender-Related Self-Concept* and *Gender-Related Support*. More specifically, given *Gender-Related Support* is conceptualized to include resources needed to engage in identity development, I expected this measure to be positively correlated, but not redundant,
with gender identity development items. Similarly, I also expected that gender identity
development items would be positively correlated, but not redundant, with Gender-Related Self-
Concept under the assumption that these processes of contemplation and experimentation are
needed in order to develop one's sense of self.

*Satisfaction with life.* Participants completed one of two measures of life satisfaction
depending on their age. Participants age 18 and older completed the Satisfaction With Life
Scale (Diener, Emmons, Larsen, & Griffin, 1985). This scale asks participants to indicate how
strongly they agree or disagree with five items (e.g., “the conditions of my life are excellent,” “so
far I have gotten the important things I want in life”) on a seven point scale. The scale was
normed in a sample of young adults and it has also been previously administered to a sample of
transgender individuals (Erich, Tittsworth, & Kersten, 2010). Participants age 14 to 17 were
administered the Students’ Life Satisfaction Scale (Dew & Huebner, 1994). This measure uses
the same seven point response scale and includes seven similar items developed to reflect life
satisfaction in adolescence (e.g., “my life is going well,” “I have what I want in life”). These
measures were included for use in future secondary data analyses.

**Procedure**

*Data collection.* A waiver of parental consent was received during the IRB review
process. This waiver was sought to protect the privacy of potential youth participants. Youth
participants are likely to be concerned about potentially “outing” themselves as transgender or
as a sexual minority if asked to obtain parental consent. Doing so may also have placed these
youth at risk for parental harassment, abuse, or expulsion from home. These consequences of
disclosure of sexual orientation to parents are widely documented in the research literature (e.g.
D’Augelli, Grossman, & Starks, 2005; Grossman et al., 2006; Mustanski, Newcomb, & Garofalo,
2011). As a whole, these risks would have turned away a number of potential participants who
were otherwise able and willing to contribute to the research project. Given lack of parental
support has previously been identified as an important risk factor for all of the outcomes
measured in the present study, excluding these participants would have interfered significantly with the ability to conduct the study and interpret the data (Mustanski, 2011). Lastly, the waiver was not inconsistent with Federal, State, or local law (Field & Behrman, 2004). A number of safeguards were put in place to protect minor participants. These participants were provided with information to contact a youth advocate (phone number, email address) to discuss the study further prior to participation, if desired. Minor participants were also encouraged to discuss the study with a trusted family member or other adult prior to participation. Additionally, all participants were provided with strategies to increase the anonymity of their responses (e.g., clearing their history and closing the browser after completing the survey).

Potential participants who were eligible to participate based on their responses to the eligibility screener were directed to the consent form followed by the decision making capacity screener (Appendix C). This screener contained four true-false items assessing key information regarding the survey contained in the consent form (e.g., you have to answer all of the questions in the survey (false), the questions will ask about topics that might make you feel uncomfortable (true)). Participants who correctly answered all four questions were then routed to the survey. Participants who incorrectly answered one or more of these questions were redirected to the consent form and given one additional chance to read the consent form and complete the decision making capacity survey. This post-consent survey format is consistent with the Decision-Making Capacity framework (Dunn & Jeste, 2001; Mustanski, 2011). The survey, including eligibility screen, consent form, and decision making capacity screener were hosted by Qualtrics, an online survey program. Qualtrics meets HIPAA security standards set forth by the US government to protect electronic personal health information. On average, the survey took 20 to 30 minutes to complete. After completing the survey, participants were able to submit their email addresses to be entered into a raffle for a $50 Amazon gift card (approximate chance of winning: 1 in 75). No other compensation was provided.
Given participants did not provide any identifying information (e.g., name, phone number), no follow up was conducted with those who indicated thoughts of suicide. This is consistent with previous research with adolescents, including the national Youth Risk Behavior Surveillance System, which has routinely included questions about suicidality (e.g., ideation, plans, attempts) in an anonymous form. However, several steps were taken to remain sensitive to participants’ psychological states prior to, during, and after survey completion. The consent form was written in plain language, provided information on the types of questions contained within the survey (e.g., “whether you have ever thought of ending your life and how serious these thoughts were”), and alerted participants to their ability to exist the survey at any time. In the consent form and at the end of the study, information for the Trevor Project (866-4-U-TREVOR or 866-488-7386) was also provided. The Trevor Project is a 24-hour hotline designed to cater to lesbian, gay, bisexual, transgender, and questioning youth and young adults.

Data Analysis

Prior to conducting data analysis, several steps were taken to remove false or careless responses from the data set. First, time stamps were examined to identify and remove any participants who completed the survey in an improbable length of time, defined as ten minutes or less (no such cases were identified). Additionally, IP addresses were checked and the responses given by participants from the same IP address were further examined and potentially excluded from the data set. IP addresses were also checked for location to ensure that all participants were residing in the US at time of survey completion. Further, differences across recruitment source (i.e., Facebook, Tumblr, Facebook advertisements) and between survey drop-outs and completers were also examined.

Exploratory – confirmatory factor analysis. In order to examine the relationship between variables within each of the two measures constructed for use in the present study, EFA was conducted on the first half of the data set followed by CFA on the second half of the data set. This process allowed for the identification of sub-scales within each measure. Two
sets of EFA-CFA analyses were conducted, one for each measure (i.e., Gender-Related Support, Gender-Related Self Concept). EFA was conducted using the statistical software SPSS while CFA was conducted using the lavaan package for the statistical software R (Rosseel, 2012).

Prior to conducting EFAs, items were checked to ensure that they were suitable for factor analysis. This involved examining skewness (benchmark: <2) and kurtosis (benchmark: <7) statistics for each item as well as correlations between items (benchmark correlation of at least .3 with one or more other items) and anti-image correlation matrix diagonals (benchmark: >.5). The Kaiser-Meyer-Olkin measure of sampling adequacy (benchmark: >.6) and Bartlett’s test of sphericity (benchmark: p<.05) were also examined for each set of items as a whole. After removing unsuitable items, EFAs were then run using the maximum likelihood method. Direct oblimin rotation, a standard oblique rotation technique, was also used to allow factors to correlate with each other within the EFAs. This improved the ability to examine the relationships between items and factors given all items were expected to correlate with each other to some degree (Furr, 2011).

After running each EFA, factor loadings for each individual item, inter-factor loadings, error variances, and percent of total variance accounted for by each factor were examined and EFAs were adjusted and re-run based on this information. Two strategies were used to determine the optimal number of factors to extract. First, the Kaiser criterion (eigen value less than 1) was used as a preliminary cut off. This approach was then followed by the parallel analysis technique (Hayton, Allen, & Scarpello, 2004). This technique is preferred over the Kaiser criterion, which has been found to overestimate factors and make arbitrary decisions regarding factors with eigen values close to 1. Using this procedure involves computing a random data set that contains the same number of items, item scale (i.e. 1 to 4), and number of observations (e.g., participants) as the data being analyzed. This data set is then subject to a series of 50 EFAs and the eigen values resulting from these EFAs are averaged. The 95th
confidence interval of these averages, which corresponds to \( p = 0.05 \), is then compared to the
eigen values produced by the real data. Factors with eigen values above the value of the eigen
values obtained from the random data set are then retained (Hayton et al., 2004).

To conduct CFAs, each variable was linked to its corresponding latent factor identified
within the final EFA (Furr, 2011). CFAs were also conducted using the maximum likelihood
method. In order to examine the fit of the factor structures obtained through CFA, I examined a
number of fit indices, including the chi-square calculation of model “mis-fit” \( (X^2) \), the
Comparative Fit Index (CFI, benchmark: \( >0.93 \)), the Root Mean Square of Approximation
(RMSEA, benchmark: \( <0.08 \)), and the Standardized Root Mean Square Residual (SRMR,
benchmark: \( <0.8 \)). This is necessary because \( X^2 \) will tend to increase as sample size increases,
potentially minimizing the reported fit of the model (particularly when number of participants
exceeds 500 as it does in the current study). Each of the remaining indices only provides partial
information regarding the degree of fit. As recommended, the fit indices selected reflect analysis
of multiple measurement properties including those that measure incremental fit (CFI) as well as
residuals-based fit (RMSEA) (Jackson, Gillaspy, & Purc-Stephenson, 2009). To confirm
adequate internal reliability, Cronbach’s alpha coefficients were also calculated for each scale
(Furr, 2011).

In addition to examining the factor structure of these new measures, it is also important
to assess their relative validity. A preliminary assessment of construct validity was conducted by
examining the correlation between Gender-Related Support, Gender-Related Self Concept, self-
esteem, and gender-related identity development. The regression analyses used to test the
main study hypotheses also serve as a test each measure’s incremental validity, which refers to
the measure’s ability to predict meaningful outcomes while accounting for the impact of other
variables known to impact these outcomes (Furr, 2011). Within the analyses, subscales from
the CFA of Gender-Related Support and Gender-Related Self Concept were independently
entered into the hypothesis-testing analyses using the sum of items from each scale.
**Hypothesis testing.** Prior to hypothesis testing, a correlational matrix was derived to examine the correlations between all study variables and all outcome variables. This allowed for identification of variables that are highly correlated as well as hypothesized risk/protective factors that do not appear to be related to the outcome of suicidality (none were identified). In order to further assess collinearity, tolerance (benchmark: >.1) and VIF (benchmark: <10) values were calculated for each IV within the regression analyses (all fell into the acceptable range). In addition, Cronbach’s alpha coefficients were also calculated for each scale to confirm internal reliability and skewness and kurtosis values were calculated to confirm normality (all fell into the acceptable range) (Tabachnick, & Fidell, 2012).

In order to test the *first hypothesis*, two hierarchical regressions were conducted using SPSS, one for each outcome (past year suicidality severity, past year frequency of suicidal ideation). Within both regressions, variables were entered in the following stepwise order: (1) age, assigned sex, recruitment source (2) general social support (friend support scale of MSPSS, family support scale of MSPSS), (3) *Gender-Related Support*, (4) victimization (gender-related, sexual orientation-related), and (5) *Gender-Related Self Concept*. The hierarchical nature of this type analysis is used to examine the relative contribution of each group/step after already having factored in the contribution of previous group/step(s). This will be reflected in the size of the $R^2$ change score. Examining standardized coefficients within each group/step of the analysis will also provide information about the strength and direction of influence that each variable has on suicidality (Tabachnick, & Fidell, 2012).

The *second hypothesis* proposes that the interaction between gender-related victimization and *Gender-Related Support* will also contribute significantly to prediction of suicidality above and beyond their independent contributions. This hypothesis was tested using the PROCESS macro for SPSS developed by Hayes (2013). This macro was used to calculate the interaction term, perform regression analysis to test the significance of the interaction term, follow up the significant interaction using the Johnson-Neyman Technique (Johnson & Neyman,
1936; Bauer & Curran, 2005), and produce data points to graph the interaction. Within the PROCESS syntax, gender-related victimization was identified as the moderator, Gender-Related Support subscales as the IV (with each subscale tested individually), and global social support (friends, family), sexual-orientation related victimization, depression, age, assigned sex, and recruitment source as covariates. The significance test of the change in the R^2 value associated with the addition of the interaction term was used to identify whether a significant interaction is present. For significant interactions, the Johnson-Neyman Technique identifies the range of moderator (i.e., gender related victimization) values for which the effect of the IV (i.e., Gender-Related Support subscale) on the outcome (i.e., suicidality) depends on the value of the moderator (termed the “region of significance”). This method is thought to be superior to other interaction probing techniques, such as the pick-a-point technique, that rely on a preset selection of mediator values (e.g., 1 SD above and below scale mean) that may not be capturing sample-specific areas of interest (Hayes, 2013). Despite the limitations of the pick-a-point approach, it remains helpful for graphically visualizing interactions. Therefore, data values from PROCESS corresponding to the 10th, 25th, 50th, 75th, and 90th percentile of the moderator and IV were used to graph the significant interaction (Hayes, 2013).

The third hypothesis proposes that the relationships between general social support (from friends and family), Gender-Related Support, and victimization (both gender and sexual orientation based) are partially mediated by both depression and Gender-Related Self-Concept across both measures of suicidality (past year suicidality severity and frequency of suicidal ideation). Analysis of this mediation hypothesis was conducted using the MEDIATE macro for SPSS developed by Hayes and Preacher (2013). This macro uses regression analysis to calculate the total, indirect, and direct effect of an IV on a DV via one or more mediators. The macro also allows for multiple IVs to be tested in the same analysis, thus reducing the number of statistical tests and opportunity for type I error. During the first stage, the total effect is calculated by including only IVs and excluding mediators from the analysis. During the second
stage, the path between IVs and mediators is calculated separately for each mediator. During the third stage, all IVs and mediators are included in order to identify direct effects. During the final stage, the significance of the indirect effect is evaluated by examining its associated confidence interval. Confidence intervals that do not include zero are considered significant. These confidence intervals are calculated using bootstrapping, a technique that uses a repeated random samples of the existing dataset to estimate the sampling distribution of the indirect effect. Within the syntax, the number of bootstrap samples used to estimate these intervals was set at 10,000 and the confidence level for confidence intervals was set to the 95th percentile.

The fourth hypothesis proposes that physical dysphoria will be associated with higher levels of suicidality (both past year frequency of ideation and suicide severity), as mediated by ability to access and afford gender affirming medical care (GAM). This hypothesis was also tested with the MEDIATE macro, using the same parameters and interpretation strategy as the third hypothesis (Hayes & Preacher, 2013). Within this analysis, desire for gender affirming medical care (hormones, “top” surgery, “bottom” surgery) is used as a measure of physical dysphoria. Prior to conducting the analysis, scales were created that combined participants’ responses across these types of GAM, with one scale reflecting desire for GAM and one scale reflecting access to GAM. Given hormone use requires regular access to care, individuals who indicated that they were currently on hormones still rated their about their ability to access and afford them. For individuals who had already undergone “top” or “bottom” surgery, ratings of desire for these procedures prior to receiving them was used. For these participants, ratings of difficulty accessing care were coded as “strongly disagree.” In order to control for their effects, age, assigned sex, tumblr recruitment source, global social support (from friends and family), Gender-Related Support, and victimization (both gender and sexual orientation based) were also entered as covariates.

After testing these hypotheses, one final set of exploratory analyses was conducted in order to identify whether age or sex assigned at birth moderate the relationship between the IVs
remaining significant in the final models (i.e., gender and SO-related victimization, family support, depression, self-concept positivity, GAM access) and suicidality. These demographic characteristics (assigned sex, age) are two of the most commonly studied within the research literature on suicide (Bridge et al., 2006; Nock et al., 2008).
RESULTS

Demographic Overview

Figure 1 provides an overview of the eligibility and retention of study participants, including the number who began the eligibility screener (n=3,240) the number eligible to participate (n=2,281), and the number who completed the survey (n=1,987). Of those who completed the eligibility screener, 883 (27.9%) were ineligible, most commonly because they live outside of the United States (N=747, 84.6% of those ineligible), were over age 30 (N=100, 11.3%), or indicated that they did not identify, at least somewhat, as transgender, gender nonconforming, or as a gender other than that associated with their assigned sex (N=43, 4.9%). During data cleaning, 22 participants were also removed from the dataset due to IP addresses falling outside of the US (despite self-report of living within the US), repeat responding, or reporting an age that conflicted with their date of birth.

Figure 1 Overview of participant eligibility and retention

- Started Eligibility Screener n = 3,240
- Did not complete Eligibility Screener n = 76
- Eligibility Screener Complete n = 3,164
- Ineligible n = 883
  - Outside of US: n=747 (84.6%)
  - Over 30: n=100 (11.3%)
  - Not trans identified: n=43 (4.9%)
- Eligible n = 2,281
- Dropped out prior to survey n = 209
  - During Consent: n=138 (66.0%)
  - During EMCS: n=71 (34.0%)
- Began Survey n = 2,072
- Dropped out during survey n = 86
- Finished Survey n = 1,987
- Removed during data cleaning n = 31
- Partial data: n=44
  - Complete data: n=1,912 (96.2%)
Of those who were eligible to participate, 86.9% completed the survey. This statistic reflects the 209 participants who dropped out prior to beginning the survey as well as the 85 who dropped out during the survey. Participants with incomplete data (n=44) were included if their responses were complete for all of the variables in each individual analysis (i.e., listwise deletion). Participants who dropped out during/after the consent form or during the decision-making capacity did not differ from those who started the survey in terms of age, region of the United States, or recruitment source. In addition, those who dropped out during the survey or provided incomplete data did not differ from those who provided complete data on these variables or in terms of sex assigned at birth, race, and socioeconomic status.

Within this final sample, Tumblr (48.1%) and Facebook posts (26.9%) were the most commonly reported recruitment sources followed by Facebook ads (12.0%), email forwards or Facebook shares by a friend (9.7%), and other sources (3.3%) (e.g., twitter, craigslist.org, electronic mailing lists). ANOVA omnibus tests revealed that rates of suicidality differed by recruitment source (past year suicidality severity: $F(4, 1997) = 4.26, p < .01$, past year ideation frequency: $F(4, 2000) = 8.03, p < .01$). Follow-up Tukey tests revealed that these differences were driven by a higher levels of suicidality among participants recruited via Tumblr in comparison to those recruited from forwards from a friend (past year suicidality, past year ideation frequency), Facebook ad (past year suicidality, past year ideation frequency), or Facebook posts (past year ideation frequency). In order to control for these effects, a dichotomous variable reflecting recruitment from Tumblr was created and included subsequent data analyses.

An overview of participant demographics is provided in Table II. Self reported socioeconomic status appears roughly equivalent to the distribution of the US population, but was higher than reported in previous studies of suicidality among LGBT youth (Mustanski & Liu, 2012; Liu & Mustanski, 2012). Just over half of the sample reported being currently enrolled in either high school (25.0%) or college (33.8%), followed by those who completed some college
but were not currently enrolled (10.9%), and those who completed a four-year college degree (10.8%). The geographic representativeness of the sample was also similar to the US population. However, participants were somewhat more likely to reside in New England (9.6% vs. 5%), the Midwest (24.6% vs. 22%), or the West (14.1% vs. 11%) and somewhat less likely to reside in the South (21.0% vs. 32%). Participants were also more likely to identify as white (89.7% vs. 80%) and less likely to identify as African American (5.5% vs. 12.4%) or Hispanic/Latino (9.2% vs. 16.2%) than the general population. However, Asian or Pacific Islander individuals were slightly overrepresented (5.4 vs. 4.5%) and American Indian or Alaska Native identifying participants were moderately overrepresented (5.5% vs. .8%) (US Census Bureau, 2013).

Table II  Overview of participant demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex Assigned at Birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>21.9</td>
<td>439</td>
</tr>
<tr>
<td>Female</td>
<td>78.1</td>
<td>1,562</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-17</td>
<td>25.2</td>
<td>504</td>
</tr>
<tr>
<td>18-21</td>
<td>32.2</td>
<td>644</td>
</tr>
<tr>
<td>22-25</td>
<td>23.8</td>
<td>476</td>
</tr>
<tr>
<td>26-30</td>
<td>18.9</td>
<td>378</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>89.7</td>
<td>1,795</td>
</tr>
<tr>
<td>Black or African American</td>
<td>5.5</td>
<td>110</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>5.5</td>
<td>110</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>9.2</td>
<td>184</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>5.4</td>
<td>108</td>
</tr>
<tr>
<td>Arab or Middle Eastern</td>
<td>1.7</td>
<td>34</td>
</tr>
<tr>
<td>Location (Region of US)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New England</td>
<td>9.6</td>
<td>192</td>
</tr>
<tr>
<td>Mid Atlantic</td>
<td>20.0</td>
<td>400</td>
</tr>
<tr>
<td>South</td>
<td>21.0</td>
<td>420</td>
</tr>
<tr>
<td>Mid-West</td>
<td>24.6</td>
<td>493</td>
</tr>
<tr>
<td>West (excluding CA)</td>
<td>14.1</td>
<td>282</td>
</tr>
<tr>
<td>California</td>
<td>10.5</td>
<td>210</td>
</tr>
<tr>
<td>Student Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle school student</td>
<td>1.3</td>
<td>26</td>
</tr>
<tr>
<td>High school student</td>
<td>25.0</td>
<td>501</td>
</tr>
<tr>
<td>College student</td>
<td>33.8</td>
<td>677</td>
</tr>
<tr>
<td>Graduate student</td>
<td>5.9</td>
<td>118</td>
</tr>
</tbody>
</table>
Not a student (some HS or less) 1.5 30
Not a student (HS grad) 7.0 141
Not a student (some college) 10.9 219
Not a student (2 year college grad) 1.1 23
Not a student (4 year college grad) 10.8 217
Not a student (MA/PhD/MD) 2.4 49

Socioeconomic Class
Upper class 1.9 39
Upper middle class 20.6 412
Middle class 37.5 750
Lower middle class 30.2 604
Lower class 9.8 196

Total 2,002

Notably, a large majority of participants were assigned female versus male at birth (78.1% vs. 21.9%). The percent of participants indicating that they have an intersex condition or difference of sex development was low (1.2%) (e.g., XXY, CAH, high levels of hormones associated with other sex, ambiguous genitalia). However, an additional 4.6% reported being unsure as to whether they had an intersex condition. These participants noted that they possessed secondary sex characteristics associated with the other sex (e.g., facial hair, breast development) and/or were never tested for an intersex condition but suspected that they might have one. The most commonly reported ages fell between 18 and 21 although participants of all ages (14-30) were fairly well represented. The mean age was 20.9 (SD 4.30); however, this mean age differed across sex assigned at birth. While female assigned participants reported a mean age of 20.6 (SD 4.22), male assigned participants reported a mean age of 22.8 (SD 4.35); t(2048)=9.99 p <.001. Table III provides an overview of age and assigned sex differences across the study’s IVs, mediators, and outcome variables. Given the significant differences in age across sex assigned at birth, both age and assigned sex were included in the same analysis in order to control for the effects of one when examining the other.
Participants were diverse in their reports of sexual attraction (Table IV) and previous sexual activity. Among participants assigned male at birth, 59.8% reported previous sexual activity with cisgender females, 48.7% with cisgender males, 23.1% with transgender females, and 16.6% with transgender males. However, 21.9% reported no previous sexual activity. Among those assigned female at birth, a slightly greater number reported no previous sexual activity (26.7%). Previous sexual activity with cisgender females was also most common (57.2%), followed by cisgender males (51.7%), transgender males (21.4%), and transgender females (13.8%). While, on average, both male and female assigned participants reported the greatest attraction to cisgender females, attraction to cisgender males, transgender males, and transgender females were also commonly reported. In addition, participants ranged in the intensity to which they reported feeling attracted to individuals of these genders, ranging from somewhat to strongly. Across sex assigned at birth, an additional 25.4% reported attractions to individuals of a gender not listed and 10.6% reported previous sexual activity with individuals of
a gender not listed (e.g., genderqueer, nonbinary, agender, androgynous, agender, intersex individuals).

**Table IV Degree of sexual attraction by gender (percentages)**

<table>
<thead>
<tr>
<th></th>
<th>Assigned Female at Birth</th>
<th>Assigned Male at Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Somewhat</td>
<td>Moderately</td>
</tr>
<tr>
<td>Cisgender females</td>
<td>14.5</td>
<td>24.5</td>
</tr>
<tr>
<td>Transgender females</td>
<td>22.7</td>
<td>31.1</td>
</tr>
<tr>
<td>Cisgender males</td>
<td>26.2</td>
<td>23.3</td>
</tr>
<tr>
<td>Transgender males</td>
<td>21.3</td>
<td>29.5</td>
</tr>
</tbody>
</table>

Results of gender and sexual orientation identification also support a dimensional framework (Table V). On average, participants assigned female at birth were most strongly identified as transgender, genderqueer, and male while participants assigned male were most strongly identified as female, MTF, and transgender. However, much variation existed, with large numbers of participants identifying somewhat or moderately with a range of gender identities. The most common gender identities not listed included gender fluid (6.17%), nonbinary (2.0%), and neutrois (1.3%). Identification with sexual orientation identities was also diverse. Both female and male assigned participants were most strongly identified as queer and pansexual. Most common sexual orientations not listed included demisexual (4.9%), panromantic (1.6%), gray-sexual (1.3%), and polysexual (1.0%). When asked what pronouns best reflect their gender(s), 65.9% of male assigned participants reported she/her, followed by 10.6% they/them, 10.4% no preference, 6.0% he/him, 3.6% not listed, 2.4% multiple pronouns (e.g., he/him and they/them), and 1.0% zie/hir. Among those assigned female, 42.9% reported he/him, followed by 28.7% they/them, 11.6% no preference, 5.9% she/her, 5.4% not listed, 2.8% multiple pronouns, and 2.7% zie/hir. Across both female and male assigned participants, not listed pronouns included it/its, xe/xim, fae/faers, ve/ver, tho/thorn, ne/nim, and ey/em.
Table V  
*Degree of identification with gender and sexual orientation labels (percentages)*

<table>
<thead>
<tr>
<th>Gender/Identity</th>
<th>Assigned Female at Birth</th>
<th>Assigned Male at Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Somewhat</td>
<td>Moderately</td>
</tr>
<tr>
<td>Male</td>
<td>24.2</td>
<td>18.5</td>
</tr>
<tr>
<td>Female</td>
<td>29.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Transgender</td>
<td>18.3</td>
<td>21.0</td>
</tr>
<tr>
<td>Transsexual</td>
<td>21.4</td>
<td>12.0</td>
</tr>
<tr>
<td>Gender non-conforming</td>
<td>20.8</td>
<td>24.9</td>
</tr>
<tr>
<td>FTM</td>
<td>19.7</td>
<td>17.7</td>
</tr>
<tr>
<td>MTF</td>
<td>1.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Genderqueer</td>
<td>18.8</td>
<td>19.2</td>
</tr>
<tr>
<td>Androgynous</td>
<td>26.2</td>
<td>21.3</td>
</tr>
<tr>
<td>Third Gender</td>
<td>13.6</td>
<td>6.5</td>
</tr>
<tr>
<td>Agender</td>
<td>12.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Two Spirit</td>
<td>8.11</td>
<td>3.9</td>
</tr>
<tr>
<td>Cross dresser</td>
<td>12.4</td>
<td>7.0</td>
</tr>
<tr>
<td>Drag Performer</td>
<td>7.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>Assigned Female at Birth</th>
<th>Assigned Male at Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homosexual</td>
<td>27.5</td>
<td>25.6</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>17.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Bisexual</td>
<td>29.4</td>
<td>21.9</td>
</tr>
<tr>
<td>Gay</td>
<td>26.1</td>
<td>21.2</td>
</tr>
<tr>
<td>Lesbian</td>
<td>19.7</td>
<td>12.8</td>
</tr>
<tr>
<td>Queer</td>
<td>10.9</td>
<td>14.8</td>
</tr>
<tr>
<td>Pansexual</td>
<td>19.9</td>
<td>19.7</td>
</tr>
<tr>
<td>Asexual</td>
<td>15.8</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Descriptive information regarding desire for hormones, top surgery, and bottom surgery is provided in Table VI. For participants who had already received (e.g., “top” and “bottom” surgery) or were receiving (i.e., hormones) these gender affirming procedures, desire prior receiving the procedures was assessed. For the remaining participants, current desire for these procedures was assessed. While desire for hormones and “top” surgery were similar, only 6.4% percent of the sample had obtained top surgery in comparison to 24.3% of the sample who had obtained hormones. In contrast, only 1.8% had obtained “bottom” surgery. In other terms, 46.2% of those reporting a strong or extreme desire for hormones were currently taking them while 12.1% of those reporting a strong or extreme desire for “top” surgery and 7.6% of those with a strong or extreme desire for “bottom” surgery had obtained these procedures. Relatedly, 37.9%
of all participants agreed or strongly agreed that cost or lack of access prevents them from obtaining hormones. Equivalent figures were 54.7% for “top” surgery and 46.0% for “bottom” surgery.

Table VI Strength of desire for gender confirmation procedures (percentages)

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Small</th>
<th>Moderate</th>
<th>Strong</th>
<th>Extreme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormones</td>
<td>19.1</td>
<td>15.0</td>
<td>13.6</td>
<td>16.6</td>
<td>35.9</td>
</tr>
<tr>
<td>“Top” surgery</td>
<td>18.3</td>
<td>15.6</td>
<td>13.7</td>
<td>14.2</td>
<td>38.3</td>
</tr>
<tr>
<td>“Bottom” surgery</td>
<td>43.6</td>
<td>19.1</td>
<td>13.5</td>
<td>9.9</td>
<td>13.9</td>
</tr>
</tbody>
</table>

Exploratory Factor Analysis

Separate EFAs were conducted with the first half of the data set for both Gender-Related Support and Gender-Related Self Concept measures.

Gender-Related Support. Prior to conducting EFA, items were checked to ensure their suitability for the analysis. Skewness and kurtosis statistics for all items were in the range considered appropriate for exploratory factor analysis using the maximum likelihood method (all <2). In addition, all items correlated at least .3 with more than one other item and anti-image correlation matrix diagonals were at least .5, indicating that factor analysis was suitable for all 14 items. In the first EFA, five items with communalities below .3 were identified and removed from the analysis: I’ve had the information I need to understand and feel positively about my gender identity/expression (item 1), I’ve had friends who have shared a similar gender identity/expression as myself (item 4), and I have been able to access the gender segregated facilities that best fit my gender identity/expression (e.g., bathrooms, locker-rooms) (item 11), I’ve had the role models I needed to understand and feel positively about my gender identity/expression (item 3), and there is a group or community of people who think my gender identity/expression is something positive about who I am (item 14). An additional item’s communality fell just below the cutoff (.29) (i.e., I have been able to openly engage in the activities (e.g., hobbies, sports, entertainment) that I enjoy), but was retained given it was associated with two other items reflecting gender expression ability (factor 2). In the third EFA,
one of the two reversed scored items resulted in a Hayward case: People in my life have forced me to change or hide my gender (item 13) (communality greater than 1). Removing both reverse scored items (12 and 13) significantly improved the EFA. The Kaiser-Meyer-Olkin measure of sampling adequacy (.81) for this final 7 item EFA was greater than the recommended value of .6, indicating that the sample size was adequate for the analysis. Bartlett’s test of sphericity, a measure of correlations between variables, was also significant ($\chi^2(21) = 2717.95, p < .01$).

**Table VII** EFA factor loadings and communalities for Gender-Related Support measure

<table>
<thead>
<tr>
<th></th>
<th>Affirmation</th>
<th>Expression Ability</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>I've had the support I needed to understand and feel positively about my gender identity/expression</td>
<td>.64</td>
<td></td>
<td>.47</td>
</tr>
<tr>
<td>People in my life have been accepting of my gender identity/expression</td>
<td>.82</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>People in my life use the correct pronoun and name when referring to me</td>
<td>.65</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>People in my life have made positive comments about my gender identity/expression</td>
<td>.81</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>I have been able to openly shop for the clothing and accessories that I want</td>
<td></td>
<td>.86</td>
<td>.72</td>
</tr>
<tr>
<td>I have been able to openly dress and style myself the way that I want</td>
<td></td>
<td>.93</td>
<td>.80</td>
</tr>
<tr>
<td>I have been able to openly engage in the activities (e.g., hobbies, sports, entertainment) that I enjoy</td>
<td></td>
<td>.45</td>
<td>.29</td>
</tr>
</tbody>
</table>

Factor loadings <.3 are suppressed

Results from the final EFA (maximum likelihood with oblimin rotation) using eigen value cut off of 1.0 produced a two factor solution. The decision to retain two factors was confirmed using the parallel analysis technique, which involved creating a random data set reflecting the parameters of the actual data (scale: 1 to 4, N=1030, 7 variables). The average of the first three eigen values (1.14, 1.10) resulting from fifty simulations of EFA (maximum likelihood) on this random data set were smaller than the first three eigen values produced by the EFA (3.47, 1.25). The overall chi square measure of goodness of fit was non-significant ($F(8)=10.94, p=.21$),
indicating a good overall fit. The factor loadings and communalities for each of the seven items can be seen in Table VII. The first factor, termed Gender-Related affirmation, accounted for 50% of the variance while the second factor, termed Gender-Related expression ability, accounted for 18% of the variance. Together, these two factors account for 68% of the variance among the items and are moderate correlated with each other ($r=.54$).

**Gender-Related Self Concept.** Kurtosis statistics for all items within the Gender-Related Self Concept measure were in the range considered appropriate for exploratory factor analysis using the maximum likelihood method. However, skewness statistics for two items were greater than recommended (>2) due to low overall endorsement of these items (i.e., my gender identity/expression is part of a disorder or defect in how I developed; my religious or spiritual beliefs conflict with my gender identity/expression). In addition, these two items did not correlate at least .3 with one or more other items, and were, therefore, dropped from the analyses. An additional item was dropped due to its ambiguous wording (i.e., I want to change my gender identity/expression), leaving a total of 8 items. In the first EFA, one item exhibited a communality score below .3 and was removed (i.e., my gender identity/expression fits well with the rest of myself). In the second and final EFA, Meyer-Olkin measure of sampling adequacy (.78) was greater than the recommended value of .6, Bartlett’s test of sphericity was significant ($\chi^2(21) = 2017.24, p < .01$), and anti-image correlation matrix diagonals were all above .5.

**Table VII** EFA factor loadings and communalities for Gender-Related Self Concept measure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Clarity</th>
<th>Positivity</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a clear understanding of my gender identity/expression</td>
<td>.87</td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>I feel unsure, confused, or conflicted about my gender identity/expression</td>
<td>.68</td>
<td></td>
<td>.63</td>
</tr>
<tr>
<td>I have a good idea of what my gender identity/expression will be like when I am older</td>
<td>.72</td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td>My gender identity/expression is something positive about who I am</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Its best for me to hide or change my gender identity/expression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel ashamed or embarrassed when I think</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Factor loadings <.3 are suppressed

Results from the final EFA (maximum likelihood with oblimin rotation) using eigen value cut off of 1.0 produced a 2 factor solution. The decision to retain two factors was confirmed using the parallel analysis technique (scale: 1 to 4, N=1030, 7 variables). The average of the first two eigen values (1.13, 1.07) resulting from fifty simulations of EFA (maximum likelihood) on this random data set were smaller than the first two eigen values produced by the EFA (3.05, 1.34). The chi square measure of goodness of fit was significant ($\chi^2$ (8)=48.66, $p<.001$); however, this is common in larger data sets and does not necessarily indicate a poor fit. The factor loadings and communalities for each of the seven items can be seen in Table VIII. The first factor, termed Gender-Related Self Concept Clarity, accounted for 43% of the variance while the second factor, termed Gender-Related Self Concept Positivity, accounted for 19% of the variance. Together, these two factors accounted for 63% of the variance among the items. Moderate correlations existed between the two factors ($r=.45$).

Confirmatory Factor Analysis

Following these two sets of EFAs, CFAs were conducted with the second half of the data set in order to further validate the factor structure. These analyses were also conducted separately for each measure. Results from the CFA of the Gender-Related Support measure were largely consistent with EFA results. As planned, several measures of factor structure fit were examined. While results from the chi square were significant ($\chi^2$ (13)=39.01, $p<.001$), this is common in datasets with a large number of participants (>500). In contrast, the remaining three indicators suggested a good fit: Comparative fit index (.991), RMSEA (.044), SRMR (.036). Further, within the full sample, Cronbach’s alpha values were .82 for gender affirmation and .79 for gender expression ability (as reported in Table 10). Results from the CFA of the Gender-Related Self Concept measure were also largely consistent with EFA results. Within this CFA,
the chi square was also significant ($\chi^2 (13)=120.89, p<.001$). In addition, the RMSEA (.091) was slightly above the commonly recommended value of .08. However, both the comparative fit index (.95) and the SRMR (.040) indicated a good fit. Additionally, within the full sample, Cronbach’s alpha values were .82 for Gender-Related Self Concept clarity and .7 for Gender-Related Self Concept positivity (as reported in Table 7). These alpha values could not be improved by removing any individual items. Further, rerunning the CFA with all variables included in a single factor resulted in fit indices that were all above their associated benchmarks. Therefore, the two factor model of Gender-Related Self Concept I identified within the EFA was retained for use in subsequent analyses.

As predicted, self-esteem and gender identity development items were also weakly (e.g., identity development) to moderately (e.g., global self esteem) correlated with most Gender-Related Support and Gender-Related Self-Concept factors (reported in Table IX). Of note, both self-concept clarity and self-concept positivity were unrelated to contemplation. This could be explained by participants who were particularly low on self-concept clarity/positivity attempting to avoid the adversiveness of contemplation or vice versa, coupled with those particularly high on self-concept clarity/positivity also experiencing less need to engage in contemplation. In contrast, higher levels of contemplation were weakly associated with lower levels of gender-related support, expression ability, and global self-esteem while the correlation between contemplation and exploration was somewhat higher. Subscales of Gender-Related Support and Gender-Related Self Concept were moderately correlated, but appear independent enough to include separately in subsequent analyses.

Table IX Pearson correlations between Gender affirmation and self-concept, self-esteem, and gender identity development

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender affirmation</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender expression</td>
<td>.47**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Self concept clarity</td>
<td>.30**</td>
<td>.25**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Self concept positivity</td>
<td>.45**</td>
<td>.36**</td>
<td>.43**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As a whole, these analyses identified multiple subscales of Gender-Related Support and Gender-Related Self Concept that appear to be capturing related, yet distinct aspects of TGNC experience. While the factor structure fit of these subscales suggest that they are adequate for inclusion in tests of the hypotheses specified within the present study, they also suggest that additional study is warranted to further develop these measures (e.g., inclusion of additional items).

**Test of Hypotheses**

**Descriptives.** When asked about lifetime suicidality, only 4.5% reported that they had never thought about or attempted suicide. An additional 16.9% reported that suicide was only a brief passing thought. The largest subset of the sample, 46.4%, reported that they had plan to kill themselves at least once, but did not attempt to act on this plan. However, within this subset, 53.9% reported “really wanting to die” at the time of these suicidal thoughts. Of the remaining 32.3% who made at least one lifetime suicide attempt, 71.1% reported that they “really hoped to die” when making the attempt(s). Of those who thought about, planned, or attempted suicide, 38.2% did not tell anyone about these thoughts or plans. In contrast, 29.9% told someone once while 31.4% told someone more than once. The average age participants reported first thinking about or attempting suicide was 13.1 (SD 3.3).

Reports of suicidality in the past year were lower than lifetime reports. In the past year, 19.8% of all participants reported that they never thought about suicide and 32.1% reported that suicide was only a passing thought. In contrast, 10.4% made a suicide attempt, with 65.4% of these participants reporting that they really wanted to die at time of attempt. Of the 37.6% who reported thinking of a plan to commit suicide, 38.8% reported really wanting to die. Within the full sample, mean frequency of contemplating suicide within the past year fell between two and

<table>
<thead>
<tr>
<th>5. Self esteem</th>
<th>.37**</th>
<th>.27**</th>
<th>.14**</th>
<th>.37**</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Contemplation</td>
<td>-.06*</td>
<td>-.08**</td>
<td>.00</td>
<td>-.03</td>
<td>-.08**</td>
</tr>
<tr>
<td>7. Exploration</td>
<td>.03</td>
<td>.05*</td>
<td>.05**</td>
<td>.10*</td>
<td>.05**</td>
</tr>
</tbody>
</table>

* p<.01 ** p<.001
three to four times (Table X). Of the 78.8% that did contemplate suicide, 27.4% did so 10 or more times, 13.3% 5-10 times, 21.1% three to four times, 19.4% two times, and 18.8% one time.

Within the full sample, the mean rating of future suicide likelihood (2.7) fell between rather unlikely and unlikely. The smallest percentage of participants reported future suicide as being very likely (4.4%), followed by rather likely (5.2%), likely (14.4%), no chance at all (19.2%), unlikely (22.8%), and rather unlikely (34.1%).

**Table X** Descriptives of primary study variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full Sample</th>
<th>SD</th>
<th>Range</th>
<th>Alpha</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide severity</td>
<td>2.8</td>
<td>1.4</td>
<td>1-6</td>
<td>-</td>
<td>-.19</td>
<td>.68</td>
</tr>
<tr>
<td>Frequency of suicidal ideation</td>
<td>3.7</td>
<td>1.8</td>
<td>1-6</td>
<td>-</td>
<td>-1.3</td>
<td>-.14</td>
</tr>
<tr>
<td>Friend support (MSPSS)</td>
<td>17.6</td>
<td>4.9</td>
<td>4-24</td>
<td>.93</td>
<td>.20</td>
<td>-.84</td>
</tr>
<tr>
<td>Family support (MSPSS)</td>
<td>11.8</td>
<td>5.6</td>
<td>4-24</td>
<td>.93</td>
<td>-.95</td>
<td>.29</td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>10.2</td>
<td>3.0</td>
<td>4-16</td>
<td>.83</td>
<td>-.88</td>
<td>-.09</td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>8.9</td>
<td>2.6</td>
<td>3-12</td>
<td>.79</td>
<td>-.43</td>
<td>-.88</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>9.5</td>
<td>3.4</td>
<td>6-24</td>
<td>.78</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>8.7</td>
<td>3.2</td>
<td>6-24</td>
<td>.80</td>
<td>2.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Self concept clarity</td>
<td>8.9</td>
<td>2.5</td>
<td>3-12</td>
<td>.82</td>
<td>-.75</td>
<td>-.50</td>
</tr>
<tr>
<td>Self concept positivity</td>
<td>12.7</td>
<td>2.7</td>
<td>4-16</td>
<td>.70</td>
<td>.11</td>
<td>.81</td>
</tr>
<tr>
<td>Depression (PHQ-2)**</td>
<td>12.1</td>
<td>6.5</td>
<td>0-24</td>
<td>.90</td>
<td>-.91</td>
<td>.18</td>
</tr>
<tr>
<td>GAM Desire</td>
<td>9.1</td>
<td>3.7</td>
<td>3-15</td>
<td>.73</td>
<td>-1.1</td>
<td>-.10</td>
</tr>
<tr>
<td>GAM Access</td>
<td>11.3</td>
<td>4.9</td>
<td>3-18</td>
<td>.75</td>
<td>-1.2</td>
<td>-.24</td>
</tr>
</tbody>
</table>

*Past year  **Excluding suicide item*

Table X also provides descriptive data for the study's proposed IVs and mediators. Mean levels of friend support reflect participants somewhat agreeing to agreeing that friends are a source of support. In contrast, mean ratings of family support were in the disagree slightly range.

Mean ratings of global gender-related support fell between somewhat to moderate (in reference to the availability of sources of support), while mean gender-related expression ability fell closer to moderate. Similarly, on average, participants rated the clarity and positivity of their gender-related self-concept as moderate. In contrast, mean reports of both gender-related and sexual orientation related victimization fell in the range of rarely occurring. Nonetheless, 9.7% reported at least one physical assault and 12.1% reported at least one sexual assault during the past
year. Among those who reported experiencing an assault, 66.0% experienced more than one physical assault and 65.3% experienced more than one sexual assault. Rates of depression were also high, with 22.4% of the sample falling into the range associated with severe depression. An additional 18.9% fell into the moderate to severe range, 23.6% in the moderate range, 23.2% in the mild range, and only 11.8% in the minimal range. In reference to desire for hormones, “top” surgery, and “bottom” surgery (GAM desire), mean ratings fell in the moderate desire range. In reference to difficulty accessing GAM, mean ratings fell in the agree slightly range.

As seen in Table XI, all proposed predictors are associated with both measures of suicidality. The strength of the correlation between depression and suicidality was in the medium to large range ($r = .47-.53$), while the strength of the correlations between suicidality and most other study variables was in the small to medium range ($r = -.20-.36$). Exceptions are the correlations between Gender-Related Self Concept clarity and suicidality ($r = -.06, -.12$) and GAM desire and suicidality ($r = .10, .08$), both of which were the small range.
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Suicide severity⁺</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Frequency of suicidality⁺</td>
<td>.69**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Friend support</td>
<td>—.21**</td>
<td>—.22**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Family support</td>
<td>—.29**</td>
<td>—.29**</td>
<td>.29**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Gender affirmation</td>
<td>—.29**</td>
<td>—.30**</td>
<td>.44**</td>
<td>.45**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Gender expression ability</td>
<td>—.20**</td>
<td>—.22**</td>
<td>.21**</td>
<td>.33**</td>
<td>.47**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Gender-based victimization</td>
<td>.36**</td>
<td>.25**</td>
<td>—.14**</td>
<td>—.27**</td>
<td>—.21**</td>
<td>—.18**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. SO-based victimization</td>
<td>.35**</td>
<td>.22**</td>
<td>—.16**</td>
<td>—.23**</td>
<td>—.24**</td>
<td>—.21**</td>
<td>.78**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Self concept clarity</td>
<td>—.06*</td>
<td>—.12**</td>
<td>.13**</td>
<td>.08**</td>
<td>.30**</td>
<td>.25**</td>
<td>.10**</td>
<td>—.05*</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Self concept positivity</td>
<td>—.25**</td>
<td>—.30**</td>
<td>.29**</td>
<td>.23**</td>
<td>.45**</td>
<td>.35**</td>
<td>—.12**</td>
<td>—.17*</td>
<td>.43**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Depression **</td>
<td>.47**</td>
<td>.53**</td>
<td>—.29**</td>
<td>—.33**</td>
<td>—.38**</td>
<td>—.30**</td>
<td>.34**</td>
<td>.34**</td>
<td>—.16*</td>
<td>—.30**</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. GAM Desire</td>
<td>.10**</td>
<td>.08**</td>
<td>—.04</td>
<td>—.08**</td>
<td>.04</td>
<td>.04</td>
<td>.19**</td>
<td>.01</td>
<td>.46**</td>
<td>.04</td>
<td>.11**</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>13. GAM Access</td>
<td>.21**</td>
<td>.21**</td>
<td>—.10**</td>
<td>—.25**</td>
<td>—.24**</td>
<td>—.18**</td>
<td>.22**</td>
<td>.12**</td>
<td>.15**</td>
<td>—.13**</td>
<td>.27**</td>
<td>.57 **</td>
<td>—</td>
</tr>
</tbody>
</table>

*Past year  **Excluding suicide item  * p<.05  ** p<.001
**Hypothesis 1.** Table XII provides an overview of the results from the first hierarchical regression predicting suicidality severity within the past year. As hypothesized, $R^2$ change scores indicate that each group of variables contributed significantly to the prediction of past year suicide severity, even when controlling for variables subsequently entered into the model. In addition, the contribution of variables is in the predicted direction, with lower levels of support, higher levels of victimization, and lower levels of self concept positivity each predicting higher levels of suicidality. Examination of the size of $R^2$ scores reveals that general social support (from both family and friends) and victimization predict the greatest percent of variance in ratings of suicidality, followed by Gender-Related Support and Gender-Related Self Concept. At all steps of the model, age, but not assigned sex, was also a significant predictor with older participants being less likely to report suicidality within the past year. With all variables entered into the model (step 5), both Gender-Related Support subscales along with self-concept clarity were no longer significantly related to suicide severity.

**Table XII** Results of hierarchical regression predicting suicidality severity within the past year

<table>
<thead>
<tr>
<th>Step 1: Demographic Factors</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age**</td>
<td>-.100</td>
<td>.007</td>
<td>-.309</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>-.073</td>
<td>.076</td>
<td>-.021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment</td>
<td>.026</td>
<td>.063</td>
<td>.009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2: General Support</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age**</td>
<td>-.086</td>
<td>.007</td>
<td>-.264</td>
<td>.166</td>
<td>.074**</td>
</tr>
<tr>
<td>Assigned sex</td>
<td>-.069</td>
<td>.073</td>
<td>-.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment</td>
<td>-.006</td>
<td>.061</td>
<td>-.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support**</td>
<td>-.035</td>
<td>.006</td>
<td>-.124</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support**</td>
<td>-.054</td>
<td>.005</td>
<td>-.214</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3: Gender-Related Support</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age**</td>
<td>-.079</td>
<td>.007</td>
<td>-.244</td>
<td>.175</td>
<td>.010**</td>
</tr>
<tr>
<td>Assigned sex</td>
<td>-.041</td>
<td>.076</td>
<td>-.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment</td>
<td>-.035</td>
<td>.061</td>
<td>-.013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support**</td>
<td>-.025</td>
<td>.007</td>
<td>-.088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support**</td>
<td>-.043</td>
<td>.006</td>
<td>-.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender affirmation**</td>
<td>-.045</td>
<td>.013</td>
<td>-.096</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>-.023</td>
<td>.013</td>
<td>-.042</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4: Victimization</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age**</td>
<td>-.073</td>
<td>.007</td>
<td>-.226</td>
<td>.250</td>
<td>.075**</td>
</tr>
</tbody>
</table>
Table XIII provides an overview of the results from the second hierarchical regression predicting the frequency of suicidal ideation within the past year. As hypothesized, $R^2$ change scores indicate that each group of variables contributes significantly to the prediction of past year suicidal ideation frequency, even when controlling for variables subsequently entered into the model. The contribution of variables is also in the predicted direction (i.e., lower levels of support, higher levels of victimization, and lower levels of self concept positivity each predicting higher levels of suicidal ideation). Similar to the first model, general social support from family and friends predicts the greatest percent of variance in ratings of suicidal ideation frequency. The remaining variable groups, Gender-Related Support, victimization, and Gender-Related Self Concept, contributed similarly to the prediction. In comparison to suicide severity, this reflects a decrease in the percent variance explained by victimization and an increase in variance explained by Gender-Related Support and Gender-Related Self Concept. Consistent with the first model, age, but not sex assigned at birth, was also a significant predictor with older participants indicating less frequent thoughts of suicide.
Table XIII  Results of hierarchical regression predicting frequency of suicidal ideation within the past year

<table>
<thead>
<tr>
<th>Step 1: Demographic Factors</th>
<th>B</th>
<th>SE (B)</th>
<th>β</th>
<th>Adjusted R²</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age**</td>
<td>-.093</td>
<td>.009</td>
<td>-.226</td>
<td>.063</td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>.062</td>
<td>.098</td>
<td>.014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment*</td>
<td>.237</td>
<td>.081</td>
<td>.067</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2: General Support</td>
<td></td>
<td></td>
<td></td>
<td>.143</td>
<td>.081**</td>
</tr>
<tr>
<td>Age**</td>
<td>-.073</td>
<td>.009</td>
<td>-.179</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>.068</td>
<td>.093</td>
<td>.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment*</td>
<td>.195</td>
<td>.077</td>
<td>.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support (MSPSS)**</td>
<td>-.047</td>
<td>.008</td>
<td>-.130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support (MSPSS)**</td>
<td>-.071</td>
<td>.007</td>
<td>-.223</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3: Gender-Related Support</td>
<td></td>
<td></td>
<td></td>
<td>.159</td>
<td>.017**</td>
</tr>
<tr>
<td>Age**</td>
<td>-.062</td>
<td>.009</td>
<td>-.152</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>.142</td>
<td>.097</td>
<td>.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment</td>
<td>.146</td>
<td>.077</td>
<td>.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support (MSPSS)**</td>
<td>-.031</td>
<td>.008</td>
<td>-.087</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support (MSPSS)**</td>
<td>-.053</td>
<td>.008</td>
<td>-.166</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender affirmation**</td>
<td>-.062</td>
<td>.016</td>
<td>-.106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender expression ability*</td>
<td>-.054</td>
<td>.017</td>
<td>-.079</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4: Victimization</td>
<td></td>
<td></td>
<td></td>
<td>.183</td>
<td>.024**</td>
</tr>
<tr>
<td>Age**</td>
<td>-.060</td>
<td>.009</td>
<td>-.146</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>.171</td>
<td>.096</td>
<td>.040</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment*</td>
<td>.199</td>
<td>.076</td>
<td>.056</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support (MSPSS)**</td>
<td>-.029</td>
<td>.008</td>
<td>-.082</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support (MSPSS)**</td>
<td>-.042</td>
<td>.008</td>
<td>-.131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender affirmation**</td>
<td>-.056</td>
<td>.016</td>
<td>-.095</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender expression ability*</td>
<td>-.046</td>
<td>.017</td>
<td>-.067</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender-based victimization**</td>
<td>.089</td>
<td>.017</td>
<td>.170</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>-.005</td>
<td>.019</td>
<td>-.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5: Gender-related Self Concept</td>
<td></td>
<td></td>
<td></td>
<td>.203</td>
<td>.021**</td>
</tr>
<tr>
<td>Age**</td>
<td>-.056</td>
<td>.009</td>
<td>-.138</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigned sex</td>
<td>.115</td>
<td>.096</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblr recruitment*</td>
<td>.164</td>
<td>.076</td>
<td>.046</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend support (MSPSS)*</td>
<td>-.023</td>
<td>.008</td>
<td>-.063</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family support (MSPSS)**</td>
<td>-.043</td>
<td>.007</td>
<td>-.134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>-.028</td>
<td>.016</td>
<td>.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>-.023</td>
<td>.017</td>
<td>-.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender-based victimization**</td>
<td>.093</td>
<td>.018</td>
<td>.177</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>-.011</td>
<td>.019</td>
<td>-.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self concept positivity**</td>
<td>-.106</td>
<td>.016</td>
<td>-.165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self concept clarity</td>
<td>-.006</td>
<td>.016</td>
<td>-.008</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p<.05  ** p<.001
Hypothesis 2. In order to test the second hypothesis, an interaction term was created to reflect the interaction between gender-related victimization and both Gender-Related Support subscales (affirmation, expression ability). Each of these two interactions was tested separately for each suicidality outcome using the SPSS macro PROCESS. This resulted in four total analyses. Covariates included age, assigned sex, tumblr recruitment source, depression, global social support (family, friends), and sexual orientation related victimization, along with the Gender-Related Support subscale not included in the interaction. Examination of the $R^2$ change score associated with the interaction between gender-related affirmation and gender-related victimization in the prediction of past year suicide severity revealed a small but significant effect ($R^2$ change = .001, $B = -.005$, $t(1955) = -1.98$, $p = .048$). In contrast, the interaction between gender-related expression ability and gender-related victimization was not a significant predictor of past year suicide severity ($R^2$ change score= .000, $p > .05$). As hypothesized, both interaction terms did not contribute significantly to the prediction of past year suicide ideation frequency. In all cases, centering variables prior to analysis produced equivalent results.

In order to follow up on the significant interaction of gender-related affirmation and victimization in the prediction of past year suicide severity, the Johnson-Neyman Technique was used to identify the interaction’s “region of significance.” This calculation resulted in a single value of 11.8, which indicates that the relationship between gender-related affirmation and suicide severity depends on the amount of gender-related victimization experienced when this victimization is greater than 11.8. For levels of gender-related victimization less than 11.8, the relationship between gender-related support and suicide severity is similar. This value reflects ratings of past year victimization occurring “rarely” but across all forms (i.e., Internet/phone-based harassment, verbal harassment, physical harassment and assault, sexual harassment and assault), “sometimes” across two to three forms, or “often” within two forms. Within the full sample, 22.5% reported victimization at this level or greater. As predicted by the second hypothesis, lack of gender-related affirmation was associated with higher levels of suicidality.
among those experiencing levels of victimization in this high range. Data from the 10th, 25th, 50th, 75th, and 90th percentile of gender-related affirmation and victimization scores were used to graphically depict this interaction (Figure 2). No victimization corresponds to a score of six, followed by low victimization score of eight (e.g., rare victimization across two forms or sometimes victimized in one area), medium victimization score of 10 (e.g., sometimes victimized in multiple areas or often victimized in one area), high victimization score of 12, and a very high victimization score of 14 (e.g., sometimes to often victimized across multiple areas). Ratings of gender related affirmation range from six (some affirmation in two domains, no affirmation in two domains) to 14 (consistent affirmation in two domains, moderate affirmation in two domains). Of note, ratings of suicidality severity were truncated to better visualize the interaction, with ratings of two associated with suicide as only a passing thought, three associated with thinking of a suicide plan without intent, and four making a plan with intent to act on it.
**Figure 2** Interaction of gender-related support and gender-related victimization in the prediction of past year suicide severity*

* Ratings reflect levels of suicidality occurring when all covariates are at their mean

**Hypothesis 3.** Within the mediation analyses used to test the third hypothesis, IVs included global social support (from friends and family), *Gender-Related Support* (affirmation, expression ability), and victimization (gender-related, sexual orientation related). Both the positivity subscale of *Gender-Related Self Concept* and depression were entered as mediators. The *Gender-Related Self Concept* clarity subscale was excluded due to its lack significance in the hierarchical analyses. Two mediation analyses were conducted using the SPSS macro MEDIATE, one for each outcome variable (past year suicide severity, past year frequency of suicidal thoughts). Table XIV provides an overview of the path from IVs to each mediator along
with the direct effect of both IVs and mediators on suicide severity. While all IVs are significantly related to depression, only friend support, gender affirmation, and gender expression ability are predictive of self concept positivity. As in the hierarchical analyses, family support, victimization (both gender and sexual orientation-based), and self concept positivity remain significant predictors in the full model. However, the addition of depression results in a loss of significance for friend support. Comparing adjusted $R^2$ values with this previous analysis, adding depression into the model results in an $R^2$ change score of .11, the largest change score identified.

**Table XIV Results of mediation analysis predicting past year suicide severity**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mediator: Self Concept Positivity</th>
<th>Mediator: Depression</th>
<th>Suicidality Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.  SE  p</td>
<td>Coeff.  SE  p</td>
<td>Coeff.  SE  p</td>
</tr>
<tr>
<td>Friend support</td>
<td>.062  .012  &lt;.001</td>
<td>-.162  .029  &lt;.001</td>
<td>-.010  .066  ns</td>
</tr>
<tr>
<td>Family support</td>
<td>-.006  .011  ns</td>
<td>-.131  .026  &lt;.001</td>
<td>-.021  .066  &lt;.001</td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>.253  .024  &lt;.001</td>
<td>-.277  .055  &lt;.001</td>
<td>-.012  .012  ns</td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>.208  .025  &lt;.001</td>
<td>-.289  .058  &lt;.001</td>
<td>.015  .013  ns</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>.019  .026  ns</td>
<td>.335  .060  &lt;.001</td>
<td>.057  .013  &lt;.001</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>-.050  .028  ns</td>
<td>.178  .064  &lt;.01</td>
<td>.041  .014  &lt;.01</td>
</tr>
<tr>
<td>Self concept positivity</td>
<td>--     --     --</td>
<td>--     --     --</td>
<td>-.022  .011  &lt;.05</td>
</tr>
<tr>
<td>Depression</td>
<td>--     --     --</td>
<td>--     --     --</td>
<td>.063  .005  &lt;.001</td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>.252</td>
<td>.280</td>
<td>.313</td>
</tr>
<tr>
<td>$F(9, 1931)$</td>
<td>71.89</td>
<td>84.87</td>
<td>81.26</td>
</tr>
<tr>
<td>$p$</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Table XV provides an overview of the confidence intervals for the indirect effects of each IV on suicide severity via each mediator. Although increased friend support, gender affirmation, and gender expression ability were all associated with higher ratings of self concept positivity, these relationships did not significantly explain the relationship between self concept positivity and suicide severity. This is indicated by the presence of zero within each confidence interval. In contrast, none of the confidence intervals for indirect effects via depression included zero. Therefore, the relationship between all IVs and suicide severity is at least partially the result of
the association between the IVs and higher (e.g., victimization variables) or lower (e.g., support variables) levels of depression.

**Table XV** *Confidence intervals for indirect effects within mediation analysis for past year suicide severity*

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator: Self Concept Positivity</th>
<th>Mediator: Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Friend support</td>
<td>-.003</td>
<td>.000</td>
</tr>
<tr>
<td>Family support</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>-.011</td>
<td>.000</td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>-.010</td>
<td>.000</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>-.002</td>
<td>.001</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>.000</td>
<td>.003</td>
</tr>
</tbody>
</table>

Table XVI provides an overview of the same mediation model, but with the outcome variable of past year suicide ideation frequency replacing suicide severity. Within this model, the paths between IVs and each mediator are essentially identical to those in the mediation analysis predicting past year suicide severity. Similarly, the relationships identified within the direct effects model overlap with those documented in the second hierarchical analysis. As in the mediation analysis for past year suicidality severity, adding depression into the model resulted in a $R^2$ change score of .12 and a loss of significance for friend support.

**Table XVI** *Results of mediation analysis predicting past year suicide ideation frequency*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mediator: Self Concept Positivity</th>
<th>Mediator: Depression</th>
<th>Suicide Ideation Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.</td>
<td>SE</td>
<td>p</td>
</tr>
<tr>
<td>Friend support</td>
<td>.063</td>
<td>.012</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Family support</td>
<td>-.006</td>
<td>.011</td>
<td>ns</td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>.254</td>
<td>.024</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Gender expression ability</td>
<td>.207</td>
<td>.025</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>.020</td>
<td>.026</td>
<td>ns</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>-.051</td>
<td>.028</td>
<td>ns</td>
</tr>
</tbody>
</table>
Table XVII provides an overview of confidence intervals for the indirect effect of each IV on suicide ideation frequency via each mediator. In contrast to the mediation analysis for past year suicide severity, a significant indirect effect exists via self concept positivity. In this case, the relationships between suicide ideation frequency and the IVs friend support, gender affirmation, and gender expression ability were partially a result of their association with self concept positivity. Along with all other IVs, these IVs were also related to suicidal ideation frequency via their relationships with depression.

### Table XVII Confidence intervals for indirect effects within mediation analysis for past year suicidal ideation frequency

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator: Self Concept Positivity</th>
<th>Mediator: Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confidence interval</td>
<td>Confidence interval</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Friend support</td>
<td>-.007</td>
<td>-.002</td>
</tr>
<tr>
<td>Family support</td>
<td>-.001</td>
<td>.002</td>
</tr>
<tr>
<td>Gender affirmation</td>
<td>-.024</td>
<td>-.009</td>
</tr>
<tr>
<td>Gender expression</td>
<td>-.020</td>
<td>-.007</td>
</tr>
<tr>
<td>ability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender-based</td>
<td>-.005</td>
<td>.002</td>
</tr>
<tr>
<td>victimization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO-based</td>
<td>.000</td>
<td>.007</td>
</tr>
<tr>
<td>victimization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hypothesis 4.** A second set of mediation analyses was conducted to test the effect of gender dysphoria on suicidality, as mediated by access to gender affirming medical care (GAM). Desire for GAM was used as a measure of gender dysphoria. This analysis was conducted using the same procedure as the test of the third hypothesis, but with desire for GAM as the IV and access to GAM as the mediator. Global social support (from friends and family), Gender-Related Support (affirmation, expression ability), and victimization (gender-related, sexual
orientation related) were included as covariates along with age, assigned sex, and tumblr recruitment source. Results from the first step in the mediation analysis (i.e., the total effect models) indicate that GAM desire is predictive of both past year suicide severity (Table XVIII) and past year suicide ideation frequency (Table XIX), even when accounting for the influence of age, sex assigned at birth, support, and victimization factors. However, in both cases, the direct effect becomes non-significant when GAM access is entered into the model. The confidence interval for the indirect effect is significant for both suicide severity (.003-.026) and suicide ideation frequency (.007-.037), affirming that much of the relationship between GAM desire and suicidality is a result of difficulty accessing and affording care. As such, with GAM access entered into the model, the direct effect of CGM is non-significant for both suicide severity ($F(1, 1900) = 1.77, p=.18$) and suicide ideation frequency ($F(1, 1901) = .31, p=.58$).

**Table XVIII Results of second mediation analysis predicting past year suicide severity**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Effect</th>
<th></th>
<th></th>
<th>Direct Effect</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.</td>
<td>SE</td>
<td>$p$</td>
<td>Coeff.</td>
<td>SE</td>
<td>$p$</td>
</tr>
<tr>
<td>GAM Desire</td>
<td>.027</td>
<td>.008</td>
<td>&lt;.001</td>
<td>.013</td>
<td>.010</td>
<td>ns</td>
</tr>
<tr>
<td>GAM Access</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.019</td>
<td>.007</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>$R^2 = .005$</td>
<td></td>
<td></td>
<td></td>
<td>$F(1, 1901) = 11.59$</td>
<td>$F(11, 1900) = 57.87$</td>
<td></td>
</tr>
<tr>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table XIX Results of second mediation analysis predicting past year suicide ideation frequency**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Effect</th>
<th></th>
<th></th>
<th>Direct Effect</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.</td>
<td>SE</td>
<td>$p$</td>
<td>Coeff.</td>
<td>SE</td>
<td>$p$</td>
</tr>
<tr>
<td>GAM Desire</td>
<td>.029</td>
<td>.011</td>
<td>&lt;.01</td>
<td>.007</td>
<td>.013</td>
<td>ns</td>
</tr>
<tr>
<td>GAM Access</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.028</td>
<td>.010</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>$R^2 = .003$</td>
<td></td>
<td></td>
<td></td>
<td>$F(1, 1902) = 7.38$</td>
<td>$F(11, 1915) = 40.02$</td>
<td></td>
</tr>
<tr>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Age and sex assigned at birth as moderators.** One final set of exploratory analyses was conducted in order to identify whether age or sex assigned at birth moderate the relationship between the IVs remaining significant in the final models (i.e., gender and SO-
related victimization, family support, depression, self-concept positivity, GAM access) and suicidality. These analyses were conducted using the SPSS macro PROCESS, and the size of $R^2$ change scores associated with each interaction were examined to determine whether a moderation effect was present. Significant effects were followed up using the Johnson-Neyman Technique. Table XX provides an overview of results for past year suicide severity and Table XXI provides an overview of results for past year suicide ideation.

**Table XX** Results of moderation analyses predicting past year suicide severity

<table>
<thead>
<tr>
<th>Interaction term</th>
<th>Moderator: Age</th>
<th>Moderator: Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\Delta R^2$</td>
<td>F</td>
</tr>
<tr>
<td>Family support</td>
<td>.000</td>
<td>.70</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>.004</td>
<td>10.92</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>.004</td>
<td>10.92</td>
</tr>
<tr>
<td>Self concept positivity</td>
<td>.001</td>
<td>3.79</td>
</tr>
<tr>
<td>Depression</td>
<td>.000</td>
<td>.68</td>
</tr>
<tr>
<td>GAM access</td>
<td>.000</td>
<td>.20</td>
</tr>
</tbody>
</table>

No moderation effects were found for depression and access to GAM, suggesting that the relationship between these predictors and suicidality are similar across age and assigned sex. However, for past year suicidality severity, significant moderation effects were found for gender-based and SO-based victimization. In both cases, victimization was not found to have a significant impact on suicide severity for participants age 25.5 and older (Johnson-Neyman region of significance: 14 to 25.5). In addition, examination of confidence intervals reveals that the relationship between victimization and suicidality severity was only significant for female assigned (.0389 to .0919) but not male assigned participants (-.0117 to .0618). A marginal interaction was also found for age and self concept positivity in the predication of past year suicide severity. For this interaction, the Johnson-Neyman region of significance is age 14 to 15.9, meaning that the relationship between self concept positivity and suicide severity is not significant for participants 16 and older (when all other predictors are held at their mean).
Table XXI  Results of moderation analyses predicting past year suicide ideation frequency

<table>
<thead>
<tr>
<th>Interaction term</th>
<th>Moderator: Age</th>
<th></th>
<th>Moderator: Assigned</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ΔR²</td>
<td>F</td>
<td>p</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Family support</td>
<td>.000</td>
<td>.00</td>
<td>ns</td>
<td>.002</td>
</tr>
<tr>
<td>Gender-based victimization</td>
<td>.000</td>
<td>.62</td>
<td>ns</td>
<td>.000</td>
</tr>
<tr>
<td>SO-based victimization</td>
<td>.000</td>
<td>.62</td>
<td>ns</td>
<td>.000</td>
</tr>
<tr>
<td>Self concept positivity</td>
<td>.001</td>
<td>2.32</td>
<td>ns</td>
<td>.001</td>
</tr>
<tr>
<td>Depression</td>
<td>.000</td>
<td>.18</td>
<td>ns</td>
<td>.000</td>
</tr>
<tr>
<td>GAM access</td>
<td>.000</td>
<td>.79</td>
<td>ns</td>
<td>.000</td>
</tr>
</tbody>
</table>

In contrast, none of these interactions was significant in reference to past year suicide ideation frequency. Only one significant moderation was found for past year suicide ideation frequency. Examination of confidence intervals reveals that the relationship between family support and suicide ideation frequency was only significant for female assigned (-.0476 to -.0919) but not male assigned participants (-.0273 to .0227).
DISCUSSION

The present study collected information on the suicide-related thoughts and experiences of TGNC youth and young adults (age 14 to 30) using an affirming, interpersonally focused, and developmentally informed approach. Within the sample, age, social support, victimization, and depression were the strongest predictors of both past year suicidality severity and suicide ideation frequency. Examining these two ratings of suicidality separately, suicide ideation frequency was primarily associated with current depression and social support while the severity of suicidality was more strongly associated with victimization and social support. Variations in types of Gender-Related Support (e.g., affirmation, expression ability) and Gender-Related Self Concept positivity were also associated with higher levels of suicidality, even when accounting for general levels of support from friends and family (Hypothesis 1). These findings are consistent with previous studies of adolescents and young adults that have found relationships between family support, depression, self concept, and suicidality (Bridge, et al., 2006; Dukes & Lorch, 1989; Wild, Flisher, & Lombard, 2004), as well as LGB and transgender focused studies that have also found relationships between victimization and suicidality (Clements-Nolle et al., 2006; Mustanski & Liu, 2013; Ryan et al., 2009). Above and beyond these risk/protective factors, desire for GAM was also predictive of both forms of suicidality. However, these relationships disappear once access to GAM is considered (Hypothesis 4).

Some empirical support was also found for tenants of two theories of suicidality: the Interpersonal theory (Hypothesis 2) and the Escape From Self theory (Hypothesis 3). These are two of the most empirically studied theories to date, but have not yet been empirically tested within an LGBT sample. Consistent with the Interpersonal theory, the relationship between gender-related support and suicidality is somewhat stronger for individuals who also reported experiencing high levels of victimization (Hypothesis 2). Further, consistent with the Escape from Self theory, part of the overlap between support (general, gender-related), victimization (gender-related, sexual orientation related), and suicidality is explained by the intrapersonal
factors of depression and Gender-Related Self Concept positivity (Hypothesis 3). More specifically, self concept positivity was primarily associated with level of general friend support and Gender-Related Support (both affirmation and expression ability) while depression was broadly associated with all interpersonal factors (both gender-related and general).

Taken together, these results support the perspective that both general and minority specific interpersonal and intrapersonal stress processes influence the mental health of the TGNC population (Bockting et al., 2013; Hatzenberger, 2009; Meyer, 2003). They also help to identify prevention and intervention targets for improving the health and development of TGNC individuals. As a whole, the present study broadens the scope and depth of the current research literature on both suicidality and TGNC health and development.

Theories of suicidality

Theories of suicidality vary in the types of risk and protective factors that they emphasize as well as the ways in which these factors, along with suicidality itself, are conceptualized. The Interpersonal theory proposes that individuals who make a suicide attempt must have the desire to commit suicide as well as the means to do so (Van Orden et al., 2010). To test this hypothesis, Gender-Related Support was used a measure of perceived burdensomeness and thwarted belongingness. This is consistent with previous studies that have used measures of social support to capture desire to commit suicide (Joiner et al., 2009; You, Van Orden, & Conner, 2011). Ability to commit suicide, termed acquired capability, was measured using gender-related victimization, a type of violence similar to previous conceptualizations of acquired capability (e.g., childhood abuse, combat exposure) (Bender et al., 2011; Bryan & Cukrowicz, 2011). Experiences associated with acquired capability are thought enable an act of suicide via their impact on (reduced) fear of death and (increased) pain tolerance. Within the present study, the Interpersonal theory was tested by examining the change in suicidality variance explained by adding the interaction between gender-related support and victimization (after covariates and main effects were entered). As predicted, an interaction was found for
gender-related affirmation and victimization in the prediction of past year suicide severity but not past year suicide ideation frequency. The direct effect of victimization was also greater for suicide severity in comparison to suicide ideation frequency. This is consistent with the hypothesis that experiences of violence lower the threshold for making a suicide attempt (Smith & Cukrowicz, 2010). However, the interaction was modest and much smaller than the direct effects of support and victimization. In addition, although follow up analyses indicated that the interaction’s region of significance fell in the range associated with high victimization, even when victimization was this high or higher, mean suicide severity ratings fell below the range associated with making a suicide attempt (e.g., corresponded to ideation/plan without attempt). Further, interactions between gender-related expression ability and victimization were non-significant for both suicide items.

A number of possibilities may account for this mixed support. First, within the Interpersonal theory, lack of support and victimization reflect fairly distal risk factors. More specific measures of belongingness, burdensomeness, fear of death, and pain tolerance may have been needed to detect a larger interactive effect (Van Orden et al., 2008). Similarly, previous empirical studies of the Interpersonal theory have also used different methods of measuring suicidality, including clinician ratings of suicide risk (Van Orden et al., 2008), individual or summed scores of suicide ideation (Davidson, Wingate, Grant, Judah, & Mills, 2011; Van Orden et al., 2008; Joiner et al., 2009), self-report of past attempt(s) (Joiner et al., 2009), and summed scores of multiple forms of suicidality (e.g., ideation, attempt, future likelihood) (Bryan, & Cukrowicz, 2011; Bryan, Morrow, Anestis, & Joiner, 2010). In the present study, measures of suicide severity and suicide ideation frequency were examined independently, but both were limited to the past year. While gender-related victimization and support were also reported for the past year, cumulative experiences spanning longer periods of time may be needed to increase subsequent suicide severity. Conversely, particularly influential or memorable past experiences may have a lasting impact. For example, past suicide attempts
have been identified as another form of acquired capability (Joiner et al., 2009; Van Orden et al., 2010), which were fairly common within the present study. The interaction was also assessed with important interpersonal and intrapersonal factors entered as covariates (e.g., general social support, depression), which could have reduced the significance of the interaction. In addition, a number of additional intrapersonal (e.g., coping styles, personality), interpersonal (e.g., family and peer characteristics) and structural (e.g., access to mental healthcare, availability of LGBT communities) factors may moderate the relationship between risk factors, or between risk factors and suicidality.

Results from the test of the Escape From Self theory were also generally supportive but somewhat mixed. Within the hierarchical models, Gender-Related Self Concept positivity was significantly predictive of past year suicidality even when accounting for the impact of other IVs. Comparing the two forms of suicidality, self concept positivity explained greater variance in suicide ideation frequency than suicide severity. This suggests that negative (gender-related) self concept plays a greater role in thoughts of suicide than in whether one makes an attempt and/or the severity of plans/tempts. Within the literature, self concept has been operationalized as a dynamic process involved in regulating self-related thoughts, behaviors, and emotions. As such, the self concept is thought to play a central role in organizing and making meaning of one’s experience (Markus & Wurf, 1987; Marsh, 1990). The self concept positivity subscale included items assessing desire to change, hide, and avoid thinking about one’s gender identity/expression as well as the emotional valence associated with one’s gender identity/expression (e.g., identity/expression is embarrassing or shameful, identity/expression is something positive about self). As such, this subscale reflects a combination of negative self-image and avoidance-based strategies. Items also imply comparisons between one’s ideal and actual self concept and/or perceptions that others view one’s self concept negatively. Research suggests that this perceived discrepancy between ideal and actual self concept is important to mental health (Franck, De Raedt, Dereu, & Van den Abbeele, 2007; Higgins, Klein, & Strauman,
In one study, belief that others hold particularly high standards/expectations, termed socially prescribed perfectionism, was linked to higher levels of hopelessness and suicidality (Dean & Range, 1999).

Mediation analyses revealed that self concept positivity partially mediated the relationship between gender-related support, gender-related expression ability, friend support (IVs) and past year suicide ideation frequency. In contrast, this mediation effect was non-significant for suicide severity. These mediation effects suggest that peers have a greater influence on gender-related self concept than parents. Previous research on peer and parental influences on self concept during adolescence and emerging adulthood has been mixed, with some studies reporting both family and peers play an important role (Dekovic & Meeus, 1997; Wilkinson, 2004) and some reporting peer relationships to be more important (Greenberg, Siegel, & Leitch, 1983; Hay & Ashman, 2003). In addition to parent support, mediational effects via self concept were also non-significant for both forms of victimization. Similar to the literature on peer and parent influences on mental health, previous research on the relationship between victimization and self concept appear mixed. For example, using data from several samples of high school students, Marsh, Parada, Craven & Finger's (2004) identified self concept as a central mediator of the relationship between peer bullying and mental health. In contrast, in a sample of middle and high school students, Turner, Finkelhor, & Ormrod (2010) found that only sexual assault and not physical or peer victimization was linked to self esteem despite the fact that all forms of victimization predicted depression. These mixed findings may reflect the fact that the self concept is multidimensional, and tends to increase in complexity and differentiation over the life course (Marsh, 199; Markus & Wurf, 1987). From this perspective, the source and type of victimization as well as the aspect of self esteem thought to be impacted are important to consider.

While factor analysis of Gender-Related Self Concept items produced a two factor solution (positivity, clarity), only self concept positivity was found to mediate the relationship
between interpersonal support and suicide ideation frequency. This finding is contrary to a handful of studies that have linked self concept clarity to negative mental health outcomes (Campbell 1990; Crocetti et al., 2008). Previous non-LGBT focused studies have conceptualized self concept clarity as the structure and stability of one’s self view, including how it is understood by the individual as well as articulated to others (Campbell et al., 1996). Within the present study, this subscale assessed feeling unsure, confused, or conflicted about one’s gender identity/expression as well as having a clear understanding of one’s gender identity/expression, including what this identity/expression will be like when older. The lack of association between self concept clarity and suicidality may be specific to the gender domain and/or influenced by other factors unique to this status. For example, a certain degree of gender-related self concept uncertainty may be protective in that it may prevent individuals from experiencing minority stress associated with a more well defined TGNC identity (e.g., victimization due to visibility, internalization of stigma associated with identity) (Meyer, 2003).

Lack of self concept clarity could also reflect active identity exploration and development (Crocetti et al., 2008; Dunkel, 2000). However, contrary to this hypothesis, the clarity subscale was only weakly correlated with active exploration of gender identity/expression. This suggests that many participants reporting low self concept clarity are potentially in a state of identity diffusion (e.g., little exploration or commitment) (Kroger, Martinussen, Marcia, 2010). Within previous studies, the association between lack of clarity and negative outcomes appeared to be the result of unproductive rumination and/or maladaptive coping (Luyckx et al., 2008; Luyckx, Klimstra, Duriez, Van Petegem, & Beyers, 2013). The source of victimization (e.g., peers versus strangers) may also play a central role.

In contrast, depression was one of the largest individual predictors of suicidality. This finding is consistent with the literature highlighting the high degree of overlap between depression and suicidality (Reifman & Windle, 1995; Wild et al., 2004; Liu & Mustanski, 2013). Depression also functioned as a mediator between all support and victimization IVs (both
gender-specific and general) and both measures of suicidality. Within samples of youth and young adults, both parent and peer relationships have consistently been linked to higher rates of depression and suicidality (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Neary & Joseph, 1994; Wild et al., 2004). Further, both general and LGBT specific social support have been linked to mental health within samples of LGBT youth and adults (Doty et al., 2010; Lewis, Derlega, Griffin, & Krowinski, 2003). Victimization has also been found to be predictive of depression in both LGBT and non-LGBT focused samples (Hawker & Boulton, 2003; Russell et al., 2011; Toomey et al., 2010). Within the literature specific to (adult) TGNC populations in particular, victimization has been the predictor most commonly linked to negative mental health outcomes such as suicidality (Clements-Nolle, 2006; Goldblum et al., 2012). The present study provides further evidence of these associations within a larger, geographically diverse sample of adolescents and emerging adults.

**Age, assigned sex, and demographic differences**

According to population-based studies in the United States, suicide attempts in childhood are extremely rare, but start to increase in prevalence around age 10 to 14. In comparison, adolescents age 15 to 19 are at five times the risk for death due to suicide attempt. Within the present study, the mean age of first suicide ideation/attempt was 13.1 (SD 3.3), with most participants reporting an age of onset between age 12 and 14. Researchers have suggested that this jump in prevalence during adolescence is related to the age of onset for depression and substance use, two key predictors of suicidality (Bridge et al., 2006; Gould et al., 2003). Of particular importance to TGNC populations, this age range also corresponds to the onset of puberty. For many transgender individuals, the physical changes associated with puberty are particularly distressing and result in an increase in gender dysphoria (Grossman & D'Augelli, 2007; Olson, Forbes, & Belzer, 2011). Relatedly, qualitative research with transgender youth and adults identified puberty as the most common age of first identifying one’s transgender experience (Grossman, D'Augelli, & Salter, 2006; Riley, 2012). However,
gender affirming medical care has historically been made available only to adults, thus mandating an extended period of physical dysphoria and associated distress for this subset of TGNC individuals. Interpersonally, a handful of studies also exist to suggest that TGNC related identity support is lowest in adolescence, perhaps as a result of the belief that TGNC identity/expression is a phase, the result of peer influences, and/or not something that can be authentically claimed until adulthood (Grossman & Augelli, 2006; Nuttbrock, 2012). Consistent with these findings, both general and gender-specific support steadily increased with age in the present study.

In line with increases in support, rates of suicidality and depression also steadily declined across the age range of the sample. Past year suicidality severity ratings (11.1% made attempt) were significantly lower than lifetime history of suicidality (32.3% made an attempt). However, population based data suggests that while the prevalence of suicide attempts peaks and then begins decreasing around age 18, the prevalence of completed suicide continues to increase until the mid twenties (then remains fairly stable until older adulthood when the risk for males increases) (Bridge et al., 2006; Gould et al., 2003). This suggests that although the total number of individuals experiencing suicidality may be decreasing into emerging adulthood, those who become or remain suicidal are at increased risk of death from a suicide attempt. Also concerning is the large proportion of the sample that reported frequent thoughts of suicide during the past year. In comparison to 29.8% of the sample that reported no or rare suicide ideation, 37% reported thoughts of suicide that occurred often (5-10 times) or very often (more than 10 times). Similarly high rates of depression were also present, with 42.5% of participants reporting moderate depression and 22.4% reporting severe depression. Preliminary research suggests that these high rates of depression are not developmentally limited. Within one online sample of 1093 transgender adults, 44.1% reported experiencing current depression at the clinical threshold or higher (Bockting et al., 2013). This is in comparison to a lifetime prevalence
of approximately 21% for the general population according to population-based surveys (Kessler et al., 2005).

Moderation analyses also revealed some differences in predictors of suicidality across participant age. In particular, both forms of victimization appeared to play an increasingly smaller role in predicting suicidality among older participants (e.g., those 25 or older). This may have been due to increases in social support and/or increases in coping resources. With ongoing exposure to victimization, older participants may have been better able develop and refine their methods of coping. Similarly, the role of Gender-Related Self Concept positivity appeared strongest for participants aged 14 to 16. In contrast, parental support remained an important predictor of suicidality across all ages. Family support has consistently been identified as a central influence on the health and development of LGBT youth (Goldfried & Goldfried, 2001; Needham & Austin, 2010). However, this finding runs counter to some of the research on the role of parent support in the developmental stages of adolescence and emerging adulthood. Within a large sample of Dutch adolescents (age 12-24), emotional adjustment became less associated with parent support as participant age increased. Within this sample, mean levels of parental support also decreased with age (Meeus, Iedema, Maassen, & Engels, 2005). Similarly, within a sample of LGB youth, low family support was associated with emotional distress among both 18 to 20 year olds and 21 to 24 year olds, but the strength of this influence was smaller for the older group (Mustanski, Newcomb, & Garofalo, 2011). Family support may remain particularly important to TGNC individuals throughout emerging adolescence given the difficulties commonly experienced in affording and/or accessing gender affirming medical care.

Some differences by sex assigned at birth were also found. Participants assigned female at birth outnumbered those assigned male by about 4 to 1 and also tended to be several years younger. This age difference is smaller but in the same direction as age differences found in two online studies of transgender adults (mean age difference 12 to 12.5 years) (Bockting et al., 2013; Kuper et al., 2011). In contrast, the sex imbalance was smaller in the Kuper et al (2011)
sample (61% female assigned) and was in the opposite direction in the Bockting et al. (2013) sample (57.5% male assigned). Historically, adults assigned male at birth were more likely to request gender affirming procedures; however, this sex ratio appears to have equalized in recent decades (Zucker & Lawrence, 2009). Children assigned male at birth continue to be brought in to specialized gender clinics at higher rates. This has been linked to social norms surrounding gender expression and the tendency for parents to be more critical and discouraging of femininity in children assigned male in comparison to masculinity in those assigned female (Martin 1990; Zucker, Bradley, & Sanikhani, 1997). In general, social gender roles in the US tend to be narrower for those assigned male. Sexism also remains imbedded with the culture, often resulting in an implicit and/or explicit devaluing of femininity in comparison to masculinity (Serano, 2009). Within the present study, male assigned participants reported comparatively lower ability to express their gender and more experiences of gender-related victimization. Together, these experiences may be interfering with identity development milestones, explaining the older age and smaller percentage of male assigned participants. Male assigned participants also expressed greater desire for GAM and less identification with non-binary gender identities such as gender queer.

These higher rates of risk factors (e.g., victimization, less gender expression ability) may also explain why male assigned individuals had equally high ratings of suicidality in comparison to those assigned female at birth. While females are traditionally thought to be at higher risk of suicide ideation and attempt (but not fatal attempt), assigned sex was not found to be a significant predictor of suicide. Sex differences in suicidality have also been found less frequently in LGBT samples, with some studies finding male assigned LGBT individuals to be at higher risk (King et al., 2008). Contrary to previous studies of adult transgender women (Clements-Nolle et al., 2006; Goldblum et al., 2013), moderation analyses also suggested that victimization was not as strong a predictor of suicidality among those assigned male at birth. Given the social and cultural context previously discussed, male assigned participants in the
present study may have had a longer history of exposure to victimization and, therefore, more
time to develop compensatory coping strategies.

Previous research with LGB adolescents and adults has found the prevalence rate of
lifetime suicide attempts to be between 30% to 40% (D’Augelli et al., 2005; Garofalo, Wolf,
Wissow, Woods, & Goodman, 1999; King et al., 2008; Remafedi et al., 1991). Many of these
studies were conducted in the 1990s and early 2000s when social stigma was greater and less
visibility existed. Within the largest sample of transgender individuals to date, 41% of adult
participants reported making a lifetime suicide attempt (Grant et al., 2011). Lower rates of
suicide have been found in smaller samples of TGNC adults from certain urban areas (e.g.,
21% lifetime attempt among 81 transgender individuals from Philadelphia) and in samples from
transgender-specific community settings (e.g., 18% among 153 transgender adults participating
in a regional transgender conference) The present study represents the largest and most
geographically diverse study of suicidality among TGNC adolescents and emerging adults to
date. Although rates of suicide ideation were higher, the rate of lifetime suicide attempt (32.3%)
is similar to the 31.6% suicide attempt rate from a more recent sample of urban LGBT youth
(Mustanski & Liu, 2013). This is despite the fact that participants in the present study reported
experiences of both sexual orientation and gender-related victimization as well as difficulties
accessing GAM that were all linked to higher rates of suicidality. In contrast to the hypothesis
that minority stress experiences are additive across minority domains, this suggests that
minority status in one domain may help buffer against the negative impact minority stressors
within another domain (e.g., coping skills for LGB victimization applied to gender-related
victimization). In addition, the suicide attempt rate within the present study was somewhat lower
than the 41% rate previously mentioned, suggesting a possible decrease in suicidality across
cohorts. Nonetheless, rates of suicidality and depression were much higher than population-
based averages, highlighting the urgent need for prevention and intervention.

**Implications for prevention and intervention**
Results from the present study speak to the importance of prevention and intervention efforts across the intrapersonal, interpersonal, and structural level. Within Grossman and D’Augelli’s (2006) qualitative interviews, transgender youth participants (15 to 21) echoed the importance of addressing lack of access to safe environments, lack supportive relationships, and difficulties accessing gender affirming healthcare. When asked to reflect on intrapersonal sources of resilience, a second sample of transgender youth described the importance of self-definition in the context of exposure to gender diversity, affirming one’s identity via the Internet, finding support from LGBTQ community, and advocating for oneself in school settings (Singh, 2013).

At the intrapersonal level, therapists have also been identified as a key resource in assisting TGNC individuals in affirming their gender-related sense of self, accessing GAM, and navigating TGNC minority stress. Historically, tension has existed between transgender communities and both medical and mental health providers. This tension stemmed from initial versions of TGNC standards of care that were perceived and/or experienced as barriers to gender affirmation (e.g., narrow conceptualizations of who was considered appropriate candidates for GAM, burdensome requirements prior to receiving care that were difficult for TGNC individuals to comply with due to lack of resources). Within the past several decades, providers have increasingly moved away from this “gatekeeper” role in favor of adopting approaches rooted in affirmation, informed consent, harm reduction, and client advocacy (Bockting, 2009; Lev, 2009). This shift is visible in the most recent version of the World Professional Association for Transgender Health standards of care, which asserts “being transsexual, transgender, or gender nonconforming is a matter of diversity, not pathology” (Coleman, et al., 2012, p. 168). The present study highlights both the need for support and affirmation as well as the diversity of identity and embodiment within the TGNC population.

Despite these efforts to improve the quality care, a number of barriers remain. Currently, no empirically supported treatment approaches exist specific to the unique experiences and
needs of TGNC individuals. One group intervention with LGBT individuals combined cognitive behavioral therapy (CBT) with discussions of coming out and internalized homophobia. The intervention reduced symptoms of depression and increased self esteem for participants who were able to complete it. However, only 39% of those starting the intervention did so. Further, all five transgender identified participants fell into the non-completer group (Ross, Doctor, Dimito, Kuehl, & Armstrong, 2008). Similarly, another study of gay identified males found that those who reported experiencing gender role conflict were less likely to view counseling positively (Simonsen, Blazina, & Watkins, 2000). Due to experiences of victimization and marginalization, TGNC individuals possess fewer economic resources and appear more likely to be uninsured than the general population. Particularly in more rural or conservative parts of the country, access to knowledgeable providers is extremely limited (Grant et al., 2011; Sanchez et al., 2009).

A number of barriers to obtaining medical care also exist. One study of transgender women attending community health centers in New York City identified lack of provider knowledge and cost of care as two of the largest barriers. Within this sample, being engaged in care was associated with safer hormone use practices (e.g., not sharing or using old needles) and an increased likelihood of smoking cessation (Sanchez et al., 2007). In a second study, medical providers described experiencing uncertainty and ambivalence related to providing healthcare to transgender individuals. Within this study, transgender patients described experiences of being blamed, shamed, discriminated against, or made to feel “othered” by medical providers and/or staff. Based on these experiences, patients also anticipated that similar interactions would occur in the future (Poteat, 2003). In a third study of medical school curriculum, gender affirming surgeries and transition were two of the least often taught LGBT health related topics, with only 30-40% of programs surveyed devoting any time to these topics (Obedin-Maliver et al., 2011). Together, these findings speak to the need for systems wide
improvements in cultural competency, not just for physicians who provide gender affirming care, but for all providers (e.g., primary care physicians, gynecologists).

Many transgender-identified individuals do not experience physical dysphoria strong enough to seek GAM. For those that do, gender affirming procedures are effective at eliminating or significantly reducing physical dysphoria. A recent meta-analysis combined data from 23 studies of clients receiving gender confirmation surgeries along with cross sex hormones. Approximately 80% of these clients reported a decrease in gender dysphoria, improvement in sexual function, and an increase in quality of life (Murad et al., 2010). Within the present study, the percent reporting no desire for hormones was 19.1%, 18.3% for “top” surgery, and 43.6% for “bottom” surgery. On the other end of this spectrum, 35.9% reported an extreme desire for hormones, 38.3 for “top” surgery, and 13.9% for “bottom” surgery. However, only a small percentage of the population reporting strong or extreme desire for these surgeries were able to access them. A small correlation was found between desire for these procedures and both suicide severity and suicide ideation frequency. In terms of both of these outcomes, this relationship was no longer significant when access to care was included in the model. This suggests that efforts to facilitate access to GAM may not only help to reduce or eliminate the distress associated physical dysphoria among transgender populations, but may also result in the reduction of both suicidal ideation as well as the severity of suicide attempt.

Despite findings demonstrating the benefits of treatment, many insurance plans do not cover gender affirming procedures, which are often prohibitively expensive. Often times, TGNC individuals must postpone or forgo treatment, despite the fact that research suggests that earlier treatment is associated with better outcomes (Smith, Van Goozen, Kuiper, & Cohen-Kettenis, 2005). Similarly, doctors have historically been hesitant to facilitate medical transition in individuals under age 18, which is reflected in the higher reports of access difficulties among the 14 to 17 year olds in the present study. Preliminary research from the Netherlands, where medical care is provided free to all citizens, has produced findings that discredit this fear.
Outcomes of adolescents receiving cross-sex hormones between the ages of 16 and 18 (often followed by gender affirming surgeries in early adulthood) appeared similar to, if not better than, the outcomes of adults, with none expressing regret (Cohen-Kettenis, & van Goozen, 1997; Smith, van Goozen, & Cohen-Kettenis, 2001). Puberty blocking medication used to prevent transgender adolescents from going through the biological changes associated with their assigned sex have also been shown to be highly effective. deVries and colleagues (2011) reported on outcome data for the first 70 of these adolescents to receive puberty blockers at the specialized gender clinic in the Netherlands. These adolescents were assessed just before start of puberty suppression and again just before the start of cross-sex hormone therapy (an average of 2 years later). Between these time points, general functioning improved while depression, behavioral, and emotional difficulties decreased (ratings of anxiety and anger remained similar). None experienced regret and all went on to take cross-sex hormones.

In addition to improvements in quality, availability, and affordability of care, interpersonally focused prevention and intervention efforts are also needed. In particular, parents and other family members can function as a resource for assisting their children in affirming their identities, accessing care, and navigating TGNC-related minority stressors. Parents can also help to advocate for appropriate school-based accommodations (e.g., access to sex-segregated facilities in line with affirmed gender). In cases where cross-sex identity is well established at a young age, clinicians working with TGNC adolescents have noted that early social transition (e.g., change in name, pronouns, and appearance) can be very helpful. However, social transition is not possible for children and adolescents who lack parental support (Brill & Pepper, 2013; Ehrensaft, 2011). Parents with TGNC children and youth may experience many of the same minority stressors experienced by TGNC children and youth themselves. For example, parents’ negative reactions may be a result of perceived stigma (e.g., embarrassment, shame), lack of knowledge or incorrect knowledge (e.g., belief that identity is a phase or mental illness), fear of child being victimized or ostracized (e.g., leading to efforts to change or hide
child’s identity/expression), and lack of social support (e.g., difficulty managing negative thoughts/emotions) (Brill & Pepper, 2013; Ehresaft, 2011).

Unfortunately, little is known about how to intervene to promote greater supportiveness of families. Further, Grossman and D’Augelli’s (2006) qualitative interviews with transgender youth suggest that many parents are perceived as not accepting, and most do not change in their level of acceptance over time. Within this study, approximately half of these youth’s mothers reacted negatively to their identities at first disclosure. At the time these youth were interviewed, a similar percentage of mothers were still responding negatively. During the same period, fathers shifted from being slightly more negative than mothers to slightly more accepting (Grossman, D’Augelli, Howell, & Hubbard, 2006; Grossman, D’Augelli, & Salter, 2006). In a larger longitudinal study of the general population, youth who were gender nonconforming reported higher rates of childhood physical and psychological abuse by parents, which was subsequently linked to higher rates of PTSD (Roberts, et al., 2012). The lack of research in this area, combined with the strength of the association between family support and suicidality, warrants urgent attention.

Also warranting urgent attention is the strong association between victimization and suicidality. Gender-related victimization often involves violence or threats of violence aimed at punishing or humiliating others because of their violation of gender-related social norms and/or expectations (Skidmore et al., 2006). Therefore, interventions targeting larger social norms and policies are likely to be more effective than those only addressing violence on an individual level. For example, Hatzenbuehler & Keyes (2013) found that high school students attending schools that adopted anti-bullying policies addressing the unique issues surrounding sexual orientation related bullying were at a lower risk of attempting suicide than those at schools that did not adopt these policies. Given the link found in the present study between friend support and gender-related self concept, the negative effects of lack of support and victimization at school likely extend to other important health and wellbeing outcomes. A number of researchers
studying minority stress among other subsets of the LGBT population have also highlighted the need for systemic interventions targeted at reducing victimization, particularly within school settings (Russell, Ryan, Toomey, Diaz, & Sanchez, 2011). TGNC individuals also experience victimization in workplaces, public spaces, and other locations such as shelters, prisons, and jails, and prevention and intervention efforts are needed in these areas as well (Grant et al., 2011; Nuttbrock et al., 2002).

**Strengths, limitations, and future research directions**

Strengths of the present study include the use of multiple dimensional measures of suicidality within a large and geographically diverse sample. Unlike the majority of previous studies of TGNC youth and young adults, the present study did not require participants to first present at an LGBT support group, event, or health clinic to be recruited (Savin-Williams, 2001). In addition, the present study is the first to examine the applicability of general theories of suicide to the TGNC population. In order to do so, new measures of TGNC specific risk and protective factors were developed and tested. These measures are likely to prove useful in future research on the health and development of TGNC individuals. However, it is important to note that the sample is not representative of the entire population of TGNC youth and young adults and may have oversampled heavier Internet users and/or those actively seeking support. Given the data was collected using a cross sectional design, it is impossible to determine the temporal order of participants’ experiences or demonstrate causal links between any of the risk/protective factors and outcomes. Future research will be needed to address these gaps.

Within the present study, psychological characteristics previously linked to suicide such as impulsivity, pain perception, fear of death, and hopelessness were not examined. Including these variables in future studies will help clarify their role in contributing to, interacting with, or independently influencing the risk and protective factors identified within the present study. Several TGNC specific characteristics also warrant attention. These include visibility as a gender and sexual orientation minority, social transition status and desire, degree of “outness”
about gender and/or sexual orientation minority status, and other stressful life events beyond victimization (e.g., homelessness, dropping out of school, incarceration). Perhaps given the diversity of participants in the present study, certain TGNC related experiences did not map on to the subscales used in the final analyses (e.g., gender identity/expression conflicting with religious beliefs, difficulty accessing gender congruent public facilities such as bathrooms, belief that identity/expression is a disorder or defect in development). Nonetheless, these experiences are likely to be associated with health and also warrant future attention. Similarly, exploratory moderation analyses were limited to age and sex assigned at birth. More detailed analyses including multiple measures of sex and gender would be helpful at better identifying pathways and processes involved in potential sex and/or gender based health disparities such as suicide.

Another direction for future research involves exploring whether the relationships identified within the present study apply to other health and development outcomes. Research has demonstrated that TGNC individuals also have an increased risk of experiencing a number of other negative mental health outcomes including substance abuse, anxiety, disordered eating, and PTSD (Benotsch et al., 2013; Bockting et al., 2013; Clements-Nolle et al., 2001; Institute of Medicine, 2011). Identifying common pathways will be helpful at maximizing prevention and intervention efforts while identifying unique influences is important for more targeted interventions.
APPENDIX A

Recruitment Materials

Online Postings (Facebook, Tumblr) and Craigslist/Listserv Ads

**Post title:** Transgender and gender nonconforming individuals (age 14-30) needed for health research! (online survey)

**Post text:**

The online survey is designed to capture a range of experiences associated with growing up as transgender or gender nonconforming. We plan to use this information to help other researchers, clinicians, and doctors become better informed of the developmental needs of transgender and gender nonconforming youth and young adults.

The survey will take approximately 20-30 minutes to complete. The survey will ask very sensitive questions, including but not limited to, gender and sexuality.

Participants who complete the survey will be offered the chance to enter a raffle for one of 23 $50 Amazon gift cards (odds of winning are approximately 1 in 75).

Please consider taking the survey today and please share with others you know who are transgender or gender nonconforming and age 14 to 30!

To learn more about participating in this the research study, please go to:

[ survey link ]

Laura Kuper, MA
Principal Investigator
Department of Psychology at University of Illinois at Chicago

Facebook Advertisement

**Title 1** (limit of 25 characters): Transgender?
**Text body 1** (limit of 90 characters): Contribute to health research by completing an online survey. Chance to win $50!

**Title 2** (limit of 25 characters): Gender Non-Conforming?
**Text body 2** (limit of 90 characters): Contribute to health research by completing an online survey. Chance to win $50!

**Title 3** (limit of 25 characters): Trans* or Genderqueer?
**Text body 3** (limit of 90 characters): Contribute to health research by completing an online survey. Chance to win $50!
APPENDIX B

Eligibility Screener

Thank you for your interest in the research study!

Please complete this form so that we may determine your eligibility. Participation is completely up to you and we will keep your information confidential.

1. Do you consider yourself to be transgender or gender nonconforming (at least somewhat)?
   - Yes
   - No

If 1. Is no:

2. Do you identify (at least somewhat) with a gender other than your birth sex?
   - No
   - Yes

3. How old are you?
   - Younger than age 14
   - 14-30 (individual response options)
   - Older than age 30

4. What state do you live in?
   - List of US states
   - Outside of the US

Eligibility criteria are met if:

(a) Participant identifies as transgender, gender nonconforming, or as a gender other than their birth sex (at least somewhat) (Items 1-2)
(b) Participant indicates that they are between ages of 14 and 30 (Item 3)
(c) Participant indicates that they live in the United States (Item 4)
APPENDIX C
Decision-Making Capacity Survey

The next set of questions will ask about your understanding of what is involved in the research project and your rights as a research participant.

Please select the most accurate response to each of the following questions:

<table>
<thead>
<tr>
<th>Question</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>You will have to answer all of the questions in the survey</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The survey questions will ask about topics that might make you feel upset or uncomfortable (such as questions about feeling depressed or having thoughts of suicide)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>You can exit the survey at any time by closing your Internet browser window</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>You will be paid for your participation in the survey</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Reminder: If you experience distress at any time, you can call the Trevor Project (866-4-U-TREVOR or 866-488-7386), which is a special 24-hour hotline for LGBT youth and young adults.

For participants who correctly answer all questions:

Congratulations you answered all of the questions correctly!

Here is some additional information below that might help you understand why we ask these questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>You will have to answer all of the questions in the survey</td>
<td>FALSE!</td>
<td></td>
</tr>
<tr>
<td>If you don’t feel comfortable answering a question you can choose not to answer it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The survey questions will ask about topics that might make you feel upset or uncomfortable (such as questions about feeling depressed or having thoughts of suicide)</td>
<td>TRUE!</td>
<td></td>
</tr>
<tr>
<td>This is a potential risk of participating in the study. The Trevor Project hotline is available 24 hrs a day if you are feeling distress and would like to talk to a trained listener or receive referrals to someone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| You can exit the survey at any time by closing your Internet browser window | TRUE!  
Your participation is voluntary which means you will not be forced to do anything you don’t want to do. |
| You will be paid for your participation in the survey | FALSE!  
At the end of the survey you will be able to enter a raffle for one of ten $50 VISA gift cards |

Reminder: If you experience distress at any time, you can call the Trevor Project (866-4-U-TREVOR or 866-488-7386), which is a special 24-hour hotline for LGBT youth and young adults.

For participants who answer one or more questions incorrectly:
Unfortunately you answered one or more of the questions incorrectly. It is very important that you understand your rights and any risks or discomfort that may come from participating in the survey.

If you are still interested in this study, please click on the link below to review the consent form one more time. After you review the form, you will be able to complete the survey one more time.

If you have questions, please email the Primary Investigator (Laura Kuper) at lkuper2@uic.edu
APPENDIX D

Survey Measures

Demographics

5. What sex were you assigned at birth, on your original birth certificate?
   - Male
   - Female

6. Do you have an intersex condition or difference of sex development?
   - No
   - Yes (please describe: ___________)
   - Unsure (please describe: ___________)

7. What is your date of birth?
   - Month:
   - Year:

8. What is your zip code?
   - __ __ __

9. What is your race/ethnicity? (Mark all that apply)
   - White
   - Black or African American
   - American Indian or Alaska Native
   - Hispanic or Latino
   - Asian or Pacific Islander
   - Arab or Middle Eastern

10. Are you currently a student?
    - Not a student
    - In middle school (grades 5-8)
    - In high school (grades 9-12)
    - At a community college or technical school
    - At a four year college
    - At a university (post bachelors)
    - Other, please specify________

11. What is the highest degree or level of school you have completed?
    Mark ONE box. If you are currently enrolled, please mark the previous grade or highest degree received.
    - Elementary and/or middle school
    - Some high school
    - High school graduate or the equivalent (GED)
    - Some college
    - Bachelor’s degree
    - Master’s, Professional, or Doctorate degree
    - Other degree: ____________
12. How would you categorize the home you grew up in? Choose the option that you think fits best.
   - Upper class
   - Upper middle class
   - Middle class
   - Lower middle class
   - Lower class

13. Compared to others your age, when did you go through the biological changes of puberty?
   - Much earlier
   - Somewhat earlier
   - About the same
   - Somewhat later
   - Much later
   - I haven’t gone through puberty yet

14. How much you identify with the following sexual orientation identities (include all that apply)?:
   - Homosexual
   - Bisexual
   - Heterosexual
   - Gay
   - Lesbian
   - Queer
   - Pansexual
   - Asexual
   - Not listed, please specify:

   Response options:
   Not at all
   Somewhat
   Moderately
   Strongly

15. How much you identify with the following gender identities (include all that apply)?:
   - Transgender
   - Transsexual
   - Female
   - Male
   - Gender nonconforming
   - FTM (female to male)
   - MTF (male to female)
   - Genderqueer
   - Androgynous
   - Third Gender
   - Agender
   - Two Spirit
   - Cross dresser
   - Drag performer (King/Queen)
   - Not listed, please specify:
Response options:
Not at all
Somewhat
Moderately
Strongly

16. Who have you engaged in sexual activity with (check all that apply)?
- I have never engaged in sexual activity
- Cisgender females
- Cisgender males
- Transgender females
- Transgender males
- Not listed, please specify:

17. How sexually attracted are you to the following individuals?:
- Cisgender Females
- Cisgender Males
- Transgender females
- Transgender males
- Not listed, please specify:

Response options:
Not at all
Somewhat
Moderately
Strongly

**Gender- and Sexuality- Related Victimization** (adapted from GLSEN)

Response options:
Never
Rarely
Sometimes
Often

1. In the past year, have you been verbally harassed (name calling, threats, etc. directed at you) because of…..
   i. your sexual orientation?
   ii. your gender identity/expression?
2. In the past year, how often have you been physically harassed (shoved, pushed, etc.) because of…..
   i. your sexual orientation?
   ii. your gender identity/expression?
3. In the past year, how often have you been physically assaulted (punched, kicked, injured with a weapon) because of…..
   i. your sexual orientation?
   ii. your gender identity/expression?
4. In the past year, how often have you been sexually harassed (sexual remarks, inappropriate touching) because of…..
   i. your sexual orientation?
ii. your gender identity/expression?

5. In the past year, how often have you been sexually assaulted (unwanted sexual activity) because of...
   i. your sexual orientation?
   ii. your gender identity/expression?

6. In the past year, how often have you been harassed or threatened using phone or Internet communications (for example, text messages, emails, postings on Facebook) because of...
   i. your sexual orientation?
   ii. your gender identity/expression?

**Gender-Related Support** (developed by PI)

In the past year, how much have the following statements been true?

Response options:
- Not at all true
- Somewhat true
- Moderately true
- Very true

1. I’ve had the **information** I need to understand and feel positively about my gender identity/expression
2. I’ve had the **support** I needed to understand and feel positively about my gender identity/expression
3. I’ve had the **role models** I needed to understand and feel positively about my gender identity/expression
4. I’ve had **friends** who have **shared a similar gender** identity/expression as myself
5. People in my life have been **accepting** of my gender identity/expression
6. People in my life use the **correct pronoun and name** when referring to me
7. People in my life have made **positive comments** about my gender identity/expression
8. I have been able to **openly shop for the clothing and accessories** that I want
9. I have been able to **openly dress and style myself** the way that I want
10. I have been able to **openly engage in the activities** (e.g., hobbies, sports, entertainment) that I enjoy
11. I have been able to access the **gender segregated facilities** that best fit my gender identity/expression (e.g., bathrooms, locker-rooms)
12. People in my life have been **ashamed or embarrassed** of my gender identity/expression (R)
13. People in my life have forced me to **change or hide** my gender identity/expression (R)
14. There is a **group or community of people** who think my gender identity/expression is something positive about who I am.

15. Where have you gotten **information or support** for your gender identity/expression (check all that apply)?
   i. Parents
   ii. Other family members
   iii. Teachers or other school administration
   iv. Friends and peers
   v. Medical doctor
   vi. Therapist or counselor
   vii. TV, Movies
viii. Online web searches
ix. LGBT specific online communities (tumblr, facebook, youtube)
x. GSA or LGBT community centers
xi. Other: _____________

b. How would you rate the helpfulness of information and support from these sources?
   Very unhelpful
   Unhelpful
   Neither helpful or unhelpful
   Helpful
   Very helpful

**Gender-Related Self Concept** (developed by PI)

In the past year, how often have the following statements been true?

Response options:
   Not at all true
   Somewhat true
   Moderately true
   Very true

1. I have a clear understanding of my gender identity/expression
2. I feel unsure, confused, or conflicted about my gender identity/expression (R)
3. My gender identity/expression fits well with the rest of myself
4. I want to change my gender identity/expression (R)
5. I have a good idea of what my gender identity/expression will be like when I am older
6. Its best for me to hide or change my gender identity/expression (R)
7. My gender identity/expression is something positive about who I am
8. My gender identity/expression is part of a disorder or defect in how I developed (R)
9. I feel ashamed or embarrassed when I think about my gender identity/expression (R)
10. My religious or spiritual beliefs conflict with my gender identity/expression (R)
11. I have thought a lot about my gender identity/expression
12. I feel like I have to prove my gender identity/expression to others (R)
13. I have actively explored or experimented with my gender identity/expression
14. Its best for me to avoid thinking about my gender identity/expression (R)

**Suicidal Behaviors Questionnaire- Revised (SBQ-R)**

1. Have you **ever** thought about or attempted to kill yourself?
   - Never (skip to question 6)
   - It was just a **brief** passing thought
   - I have **had a plan** at least once to kill myself but **did not** try to do it
   - I have **had a plan** at least once to kill myself and really wanted to die
   - I have **attempted** to kill myself, but **did not** want to die
   - I have **attempted** to kill myself, and really hoped to die

2. In the past **year**, have you thought about or attempted to kill yourself?*
   - Never (skip to question 6)
   - It was just a **brief** passing thought
   - I have **had a plan** at least once to kill myself but **did not** try to do it
- I have **had a plan** at least once to kill myself and really wanted to die
- I have **attempted** to kill myself, but **did not** want to die
- I have **attempted** to kill myself, and really hoped to die

If indicated previous ideation/attempt:

3. How old were you when you **first** thought about or attempted to kill yourself?*
   
   _____

4. In the **past year**, how often have you **thought about** killing yourself?
   - Never
   - Rarely (1 time)
   - Sometimes (2 times)
   - A moderate amount (3-4 times)
   - Often (5-10 times)
   - Very often (more than 10 times)

5. Have you ever told someone that you were going to commit suicide, or that you might do it?
   - No
   - Yes, at one time, but **did not** really want to die
   - Yes, at one time, and really wanted to do it
   - Yes, more than once, but **did not** want to do it
   - Yes, more than once and really wanted to do it

6. How likely is it that you will attempt suicide someday?
   - No chance at all
   - Rather unlikely
   - Unlikely
   - Likely
   - Rather likely
   - Very likely

* addition to the original SBQ-R

**Satisfaction with Life Scale (SWLS)** (participants age 18+)

Response options:
- Strongly agree
- Agree
- Slightly agree
- Slightly disagree
- Disagree
- Strongly disagree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

**Students’ Life Satisfaction Scale (SWLS)** (participants age 14-17)
Response options:
Strongly agree
Agree
Slightly agree
Slightly disagree
Disagree
Strongly disagree

1. My life is going well
2. My life is just right
3. I would like to change many things in my life (R)
4. I wish I had a different kind of life
5. I have a good life
6. I have what I want in life
7. My life is better than most teens

Patient Health Questionnaire (PHQ-2)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

Response options:
Not at all
Several days
More than half the days
Nearly everyday

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual
9. Thoughts that you would be better off dead, or of hurting yourself
10. How difficult have these problems made it for your to do your work, take care of things at home, or get along with other people?
   - Not at all
   - Somewhat difficult
   - Moderately difficult
   - Very difficult
   - Extremely difficult

Self-Esteem

I have high self-esteem

Response options:
- Strongly Disagree
- Disagree
- Disagree slightly
- Agree slightly
- Agree
- Strongly Agree

Social Support (MSPSS)

Response options:
Strongly Disagree
Disagree
Disagree slightly
Agree slightly
Agree
Strongly Agree

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I have a special person who is a real source of comfort to me.
5. I can count on my friends when things go wrong.
6. I can talk about my problems with my family.
7. I have friends with whom I can share my joys and sorrows.
8. There is a special person in my life who cares about my feelings.
9. My family is willing to help me make decisions.
10. I can talk about my problems with my friends.
11. I get the emotional help and support I need from my family.
12. My friends really try to help me

Gender-Related Identity, Embodiment, and Expression (developed by PI)

1. Which pronoun(s) best reflect your gender?
   - She/her
   - He/him
   - They/their
   - No preference
   - Not listed, please specify: ______

2. What type of name best reflects your gender?
   - Male-typical
   - Female-typical
   - Gender neutral
   - No preference
   - Not listed, please specify: ______

3. Have you ever taken cross-sex hormones (check all that apply)?
   - No
   - Yes, from a specialized gender clinic
   - Yes, from a general doctors’ office or clinic
Yes, from friends or others not in a medical setting

If yes to 3:

4. Are you currently taking cross-sex hormones?
   - No
   - Yes from specialized gender clinic
   - Yes from general doctors’ office or clinic
   - Yes from friends or others not in a medical setting

If 4 is “No” or 3 is “No”:

5. How strong is your current desire to take cross-sex hormones?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire

If 4 is “Yes”:

6. Prior to starting to take cross-sex hormones, how strong was your desire to take them?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire

7. Cost or lack of access prevents me from taking cross-sex hormones
   - Strongly Disagree
   - Disagree
   - Disagree Slightly
   - Agree Slightly
   - Agree
   - Strongly Agree

8. Have you undergone top surgery (removal, creation, or enhancement of breast tissue)?
   - No
   - Yes

If no to 8:

9. How strong is your current desire to undergo top surgery (removal, creation, or enhancement of breast tissue)?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire
10. Cost or lack of access prevents me from undergoing top surgery (removal, creation, or enhancement of breast tissue)
   - Strongly Disagree
   - Disagree
   - Disagree Slightly
   - Agree Slightly
   - Agree
   - Strongly Agree

If yes to 8:

11. Prior to obtaining top surgery, how strong was your desire for the procedure(s)?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire

12. Have you undergone bottom surgery (removal, creation, or enhancement of genital tissue)?
   - No
   - Yes

If no to 12:

13. How strong is your current desire to undergo bottom surgery (removal, creation, or enhancement of genital tissue)?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire

14. Cost or lack of access prevents me from undergoing bottom surgery (removal, creation, or enhancement of genital tissue)?
   - Disagree Strongly
   - Disagree
   - Disagree Slightly
   - Agree Slightly
   - Agree
   - Strongly Agree

If yes to 12:

15. Prior to obtaining bottom surgery, how strong was your desire for the procedure(s)?
   - No desire
   - Small desire
   - Moderate desire
   - Strong desire
   - Extreme desire
16. Have you ever taken puberty blockers (e.g., medication to stop or delay puberty)?
   - No
   - Yes and I’m still on them
   - Yes and then I started cross-sex hormones
   - Yes but then I stopped and went through the puberty of my birth sex

   **If 16 is yes:** 16a. How old were you when you started puberty blockers?

   16b. How helpful have the puberty blockers been?
   - I wish I had not taken them
   - Not at all
   - Somewhat
   - Moderately
   - Extremely

   **If 16 is no:** 16c. I wish I could have used medication (e.g., puberty blockers) to prevent myself from having to go through the puberty of my birth sex
   - I have not yet started puberty
   - Strongly Disagree
   - Disagree
   - Disagree Slightly
   - Agree Slightly
   - Agree
   - Strongly Agree

17. How do you describe your **gender identity**?
[ Open ended response box ]

18. What would your ideal **physical body** look like (including chest, genitals, and overall body size and shape)?
[ Open ended response box ]

19. How would you describe your overall **gender expression** (for example, how female-typical or male-typical your interests, activities, personality, mannerisms are)?
[ Open ended response box ]

20. How would you describe your ideal **clothing, style, and accessories**?
[ Open ended response box ]

21. How would you like **other people** to think about your gender?
[ Open ended response box ]

22. Do you have any comments or feedback on the topics covered in the survey?
[ Open ended response box ]
CITED LITERATURE


Kuper, L. E., Wright, L., & Mustanski, B. (*under review*) Identity development among racially diverse transgender and similarly gender nonconforming lesbian and gay youth.


VITA
Laura E. Kuper

EDUCATION

University of Illinois at Chicago  GPA: 4.0
Advisor: Brian Mustanski, PhD
• PhD in Clinical Psychology, expected 2015
• Masters of Arts in Clinical Psychology, 2011

Vassar College  GPA: 3.8
• Bachelor of Arts, 2007
  Major: Psychology

GRANTS, HONORS, AND SCHOLARSHIPS

2013-2014  Dean’s Scholar Award ($25,000 plus tuition and fees)
  Chancellor’s Graduate Research Fellowship for Multidisciplinary Scholarship ($8,000)

2012-2013  Robert Corley Memorial Scholarship ($1,200)
  Christopher B. Keys Award for Early Outstanding Research Achievement ($500)

2011-2012  Chancellor’s Committee on the Status of Lesbian, Gay, Bisexual and Transgender Issues Graduate Award ($500)
  Lavender Research Forum Student Paper Competition First Prize ($100)

PUBLICATIONS


**Book chapters:**

**CLINICAL EXPERIENCE**

2014 – 2015 **University of Rochester Medical Center (URMC)**
Department of Child and Adolescent Psychiatry
*APA accredited internship in Clinical Psychology*

**URMC Child and Adolescent Outpatient Clinic**
- Provide individual, group (ages 5-18), and family therapy, assessment, and consultation
- Participate in diagnostic clinic, crisis clinic, treatment team, and didactic trainings

**Golisano Children’s Hospital**
- Member of the Adolescent Transgender Healthcare Team
- Provide behavioral health consultation based services in a pediatric outpatient clinic
- Provide group therapy, brief individual therapy, and testing in an inpatient setting

**Leadership Project**
- Develop a sex, gender, and sexuality focused in service training for medical and mental health professionals
- Provide consultation to providers and staff regarding the clinical, administrative, and institutional needs of LGBTQI clients
2012 – 2014  **John H. Stroger Jr. Hospital of Cook County**  
Department of Child and Adolescent Psychiatry

**Adolescent HIV services, Ruth M. Rothstein CORE Center**  
- Conducted intakes and provided brief assessments of functioning, psychoeducation, short term solution focused psychotherapy, and crisis counseling within an integrated behavioral and medical healthcare model (ages 15-25, ~75% YMSM of color, all HIV+)
- Co-lead twice monthly support group for HIV+ youth and young adults

**Adolescent and Young Adult Clinic**  
- Conducted intakes and ongoing therapy as part of an integrated clinic structured to meet both the medical and mental health needs of youth and young adults (age 13-25)

**Morton East High School Clinic**  
- Conducted intakes and ongoing therapy at a high school based health clinic
- Co-led weekly support group for teen mothers

**Child and Adolescent Psychotherapy Clinic**  
- Conducted intakes, consultation to the hospital and pediatric ER, and individual and family therapy for adolescents and young adults (age 10-25)

2009 – 2013 **Office of Applied Psychological Services, University of Illinois at Chicago**  
Department of Psychology

- Conducted intakes, ongoing therapy, and psychological assessments (achievement, reasoning, memory, executive functioning) in an urban sliding scale training clinic
- Clients included children, adolescents, young adults, families, and couples (age 5-50)

**RESEARCH EXPERIENCE**

2010 – Present **Transgender and Gender Non-Conforming Mental Health and Development**  
Independent research lab

2009 – 2014 **IMPACT LGBT Health and Development Program**  
Director: Brian Mustanski, PhD, Associate Professor  
[Northwestern University](https://www.northwestern.edu) Feinberg School of Medicine

2007 – 2009 **Alcohol and Drug Abuse Treatment Program**  
Supervisor: Shelly Greenfield, MD, MPH, Professor, Chief Academic Officer  
[McLean Hospital](https://www.mcleanhospital.org) Harvard Medical School

**Ad hoc Reviewer**  
- Health Psychology  
- Journal of Research on Adolescence
- Journal of Sex Research  
- Journal of Youth and Adolescence
- Sexuality & Culture  
- Journal of Adolescent Research
- Journal of Homosexuality  
- Journal of Personality
LEADERSHIP POSITIONS

2013 - 2014  Consultant, NORC at the University of Chicago
              Consultant, GoBe Foundation

2012 - 2013  Member, Diversity Advancement Committee, University of Illinois at Chicago
              Co-Facilitator, Infographics Task Force IMPACT Program

2011  Facilitator, Weekly Staff Training Meeting, IMPACT Program
      o  Topic: Transgender and Gender Non-Conforming Health and Development

2008 - 2009  Member, Practice-Based Evidence Work Group: Linking Science to Care
              Member, Evidenced Based Work Group on Women’s Mental Health
              Strategic Planning Committees, McLean Hospital

2006  Urban Fellow, Rochester Center for Community Leadership, University of Rochester

TEACHING & MENTORSHIP

2013  Instructor, University of Illinois at Chicago
      Developmental Psychology (2 semesters)
      o  Enrollment: 50 per semester

2009 – 2013  Teaching Assistant, University of Illinois at Chicago
              Abnormal Psychology (3 semesters)
              ▪  Guest lecturer: Overview of personality disorders
              Developmental Psychology (2 semesters)
              ▪  Guest lecturer: Special topics in gender and sexuality development
              Psychology of Interviewing (3 semesters)
              Psychological Testing (1 semester)
              Community Psychology (1 semester)
              Field Work in Applied Psychology (1 semester)

INVITED ADDRESSES


Kuper, L.E. (2012, March) New paradigms in research on LGBT populations: A provocative, social justice infused reflection on where the field has come from and where it’s headed. Vassar College, Poughkeepsie, NY.

Kuper, L.E. (2011, November) Transgender identity and mental health (Clinical psychology brown bag presentation) University of Illinois at Chicago, Chicago, IL.
PRESENTATIONS

Kuper, L. E., Wright, L., & Mustanski, B. (August 2013) Development of a multidimensional model of gender and sexuality sensitive to the diversity of experiences within the gender nonconforming spectrum. Poster Presentation at the annual meeting of the International Academy of Sex Research, Chicago, IL.

Kuper, L. E., Wright, L., & Mustanski, B. (May 2013) Constructing a multidimensional model of gender identity and expression sensitive to the diversity of experiences within the transgender and gender non-conforming spectrum. Oral presentation at the National Transgender Health Summit, Oakland, CA.


Kuper, L. E., & Mustanski, B. (2011, September) Exploring the developmental narratives of transgender and similarly gender-nonconforming youth. Oral presentation at the annual meeting of The World Professional Association for Transgender Health, Atlanta, GA.


